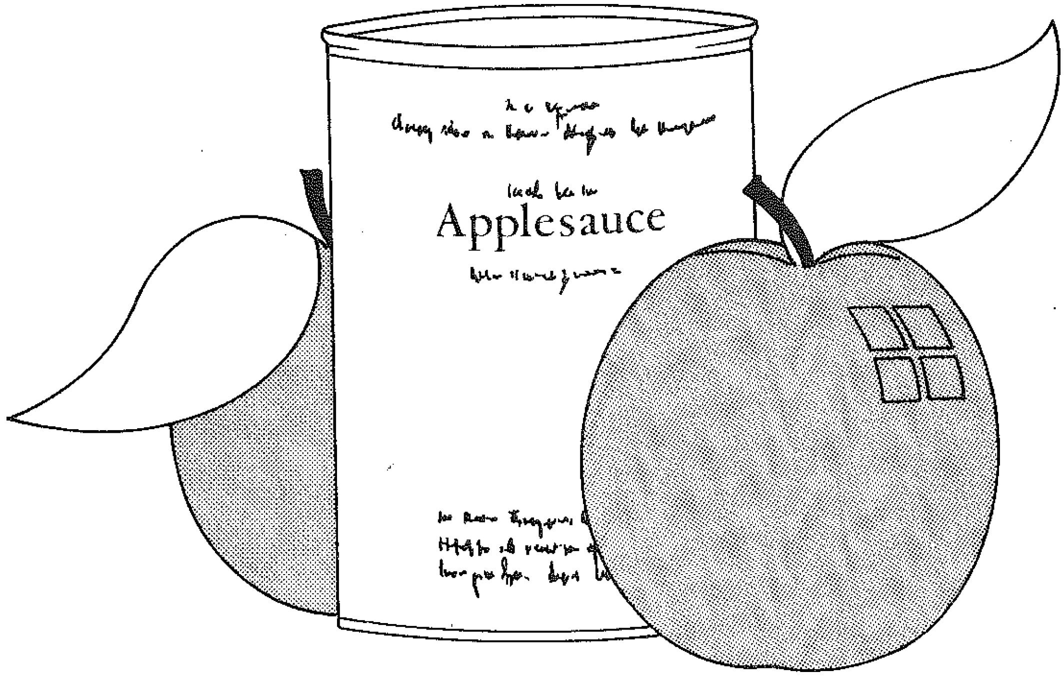
November 1984

A.E. Res. 84-15

THE APPLESAUCE INDUSTRY:

MARKET ANALYSIS AND STRATEGIC IMPLICATIONS



Michael P. Uetz

Bruce L. Anderson

Edward W. McLaughlin

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York 14853

THE APPLESAUCE INDUSTRY:

Market Analysis and Strategic Implications

Michael P. Uetz

Bruce L. Anderson

Edward W. McLaughlin

Department of Agricultural Economics
New York State College of Agriculture and Life Sciences
Cornell University, Ithaca, New York

ACKNOWLEDGEMENTS

There are a number of people we would like to thank for their contribution to this study. First we would like to extend special thanks to Mr. Ken Pollard, the members and staff of the Western New York Apple Growers Association. Their genuine concern for the future of the applesauce industry was heartening, and their support, interest and continued feedback throughout the study were greatly appreciated.

The processors and distributors who participated in this study also deserve special thanks. We are grateful for the information they provided, their cooperation and interest in the project. We are also grateful to Dr. I. Jack Abrams, Vice President, Market Research Corporation of America for providing some of the data used in this study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Section I

INTRODUCTION

Present Setting

The past twenty years have been difficult ones for the canned fruit industry. Per capita consumption of canned fruit has steadily declined. According to Hamm (1984), between 1970-1972 and 1980-1982, per capita consumption of all canned fruit products declined 29.6 percent. He suggested that consumers are shifting from canned to fresh fruit. In a July, 1984 article entitled, "Fresh puts a dent in canned fruit," the Progressive Grocer reported that supermarket canned fruit sales decreased by another 2.8 percent in 1983, to a total of $1.08 billion. In the article, Harry Mussman, Executive Vice-President of National Food Processors Association (NFPA), was quoted as follows: "Consumers perceive canned goods as old-fashioned, not as nutritious as raw products and as having excessive preservatives and additives." In reference to a Department of Agriculture report, the article also stated: "total canned fruit cases produced dramatically declined from 96.2 million cases in 1973 to only 56.9 million cases for the 1982 pack."

During this period, applesauce reflected the same trends in production and consumption as the rest of the canned fruit industry. Applesauce has experienced little or no growth in per capita consumption over the last 20 years. Per capita consumption of canned apple products fell from 3.4 pounds in 1962 to 2.0 pounds in 1982; a decrease of 41 percent (USDA, July 1980 and July 1984). The number of cases of applesauce packed declined 28 percent from 1973 to 1983 (Progressive Grocer, July 1984).

Trends in the production and consumption of applesauce are very important to the substantial New York State applesauce industry. In 1980, there were 1,183 farms producing apples in New York on 74,346 acres of land (New York Crop Reporting Service, 1980). It is estimated that in 1984 there are between 1,100-1,200 apple producing farms in the state. New York State ranks second only to Washington State in total United States apple production. According to the Associated New York State Food Processors 1982 Directory, New York State ranked first in applesauce production (p. 88). Ken Pollard, Executive Vice-President of the Western New York Apple Growers Association has said that according to his best sources, this is still the case in 1984. John Campbell, Agricultural Statistician for the New York Crop Reporting Service, stated that in 1983 New York produced a total of 1,100 million pounds of apples. The same year approximately 250 million pounds, or 23 percent of total apple production, were used for applesauce. Applesauce production and consumption is a significant part of the agribusiness sector in New York State, and, consequently, many growers, processors, and distributors are concerned about the current status and future directions of the applesauce industry.

Agriculturally-Based Products

The commodity orientation of applesauce has a unique affect on the product. It is appropriate, therefore, to look at applesauce from an agriculturally-based perspective and examine the impact this characteristic has on the production, marketing and consumption of the product. Let us begin by looking at products from a broad marketing perspective to see how they develop over time. The Product Life Cycle concept offers such a perspective. This concept holds that products generally pass through distinct stages as a product's sales position and profitability change over time. Many theorists (Levitt, 1965; Buzzell, 1966; Kotler, 1980) have used the product life cycle concept to identify developmental stages in the sales history of a particular product. Most products seem to pass through four stages: introduction, growth, maturity and decline. The graphic form typically used to show the life cycle of a product is an S-shaped curve as shown in Figure 1. The sales curve represents total sales of a product throughout its sales history. The profit curve shows total profits over the same time period. Not all products have a sales history which can be graphically represented by an S-shaped curve. It is, however, the most common graphic representation.

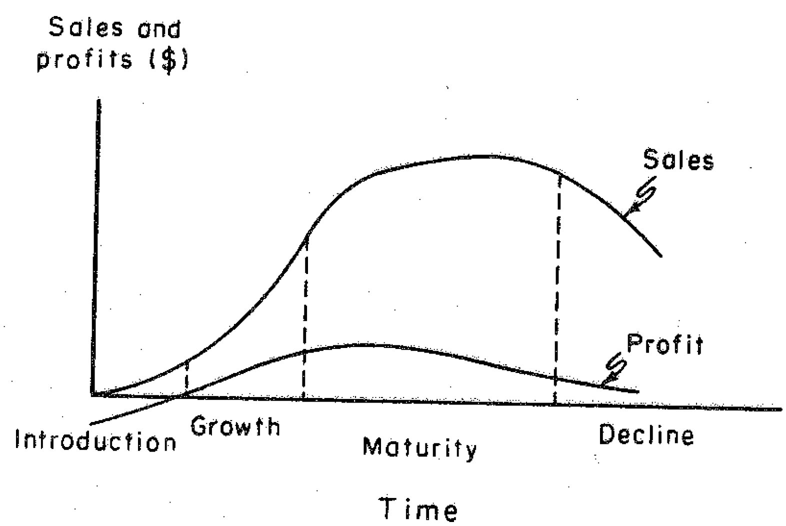


Figure 1: A Graphic Representation of the Product Life Cycle

Source: Philip Kotler, Marketing Management: Analysis, Planning and Control, 1980, p. 290.

Applesauce is hypothesized by many to be in a "mature" stage of its life cycle. It possesses many of the generalized characteristics present for a product in this stage of its life cycle (i.e. slowdown in sales growth, overcapacity, increased price competition, etc.). According to the product life cycle concept, if applesauce is a mature product, it will continue with very little sales growth until it eventually goes into a decline stage and is possibly phased out of production. Is this what will happen to applesauce, or do agriculturally-based products go through a somewhat different life cycle than the S-shaped curve depicted in Figure 1?

One postulate is that all agriculturally-based products do not pass directly from a mature to a declining stage of the product life cycle. Rather, many of these products, including applesauce, seem to maintain a mature stage for a number of years, sometimes indefinitely. Applesauce, for example, is a product that has not had tremendous sales growth over the years. However, it has maintained a place in the market and could continue to for many more years. A possible reason for products like applesauce remaining in a mature stage so long without entering a definite decline stage is the nature of the products. Many food products maintain a relatively consistent consumer demand, perhaps for their nutritional value or possibly simply out of habit. High value-added durable products seem to be more likely to pass through all stages of the life cycle, including the decline stage, because they generally can be replaced with new product developments which render older products obsolete. A product such as applesauce, however, is not so easily displaced on a permanent basis.

Agriculturally-based products seem to pass through a somewhat different product life cycle. This life cycle might look like the one depicted in Figure 2. In this figure, the product has an extended maturity stage. After reaching the mature stage, the product's sales may fluctuate from time to time due to the entrance of competitors or the development of substitutes (resulting in a downward sales movement). New innovations in the product, package, or advertising and promotional programs (resulting in upward swings in sales) may also cause sales to fluctuate. Generally, agriculturally-based products do not seem to go into as deep a decline stage as many high value-added durable products. They seem to be "survivor" products, and therefore may always be with us.

Producers and marketers of products like applesauce can have a major influence on sales after these products reach maturity. They must continually strive to keep up with the competition. They must also work continuously on product, packaging and advertising innovations which might stimulate upward movement in the sales curve.

In addition, producers and marketers of agriculturally-based products, such as applesauce, are faced with unique factors that influence the production and marketing of their products. These same factors are not likely to have an impact on non-agricultural industries. The biological nature of products, the role of prices, the numerous market segments and marketing institutions (farmer cooperatives, marketing orders and government regulations) at work in the agricultural sector all add to the complexity and importance of a coordinated marketing program for agriculturally-based products.

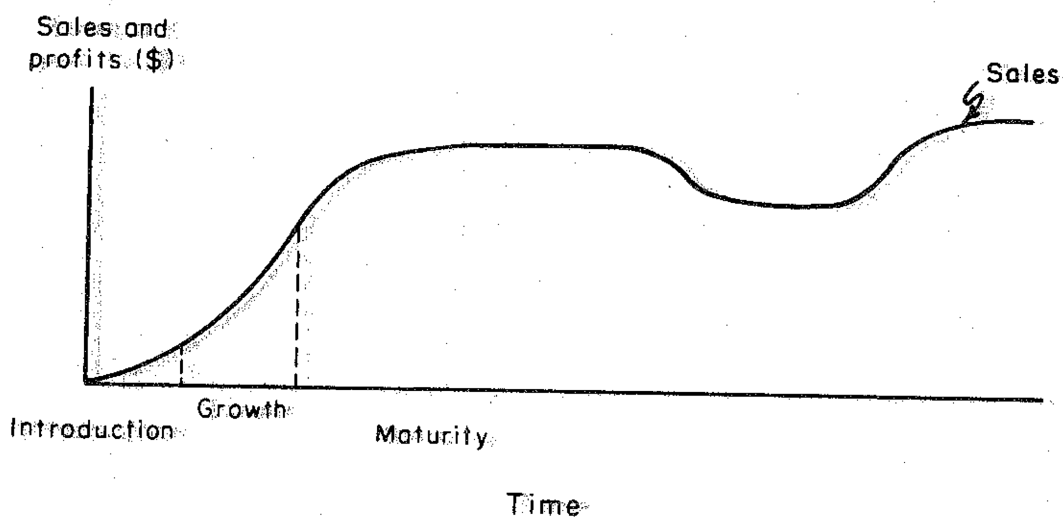


Figure 2: A Potential Product Life Cycle for Agriculturally-Based Products

Objectives

This study was designed to collect and analyze information on the applesauce industry in order to more clearly understand the factors that affect the marketing and consumption of applesauce. There were three primary objectives:

1. To gather information on general marketing characteristics, marketing strategies and consumption of applesauce;
2. To evaluate, compare and contrast this information in an effort to understand the current structure and dynamics of the applesauce industry;
3. To develop suggestions for improving marketing strategies for applesauce.

Organization of the Study

Data for this study were collected from three sources. Questionnaires were used in interviews with applesauce processors and grocery wholesalers and retailers. These questionnaires were designed to collect qualitative and quantitative information on a variety of topics related to the applesauce market. The three broad areas of concentration included general market information, current marketing strategies and suggestions for improving marketing strategies.

Section II contains an analysis of processor information. Qualitative information on perceptions of the applesauce industry was gathered from seven applesauce processors during personal interviews. Quantitative information was also supplied by five processing firms. Section III contains an analysis of qualitative and quantitative information gathered from one grocery wholesale firm and ten chain operations (hereafter referred to as retailers). Throughout the section, comparisons are made with data collected from processors to determine if processor and retailer perceptions relative to applesauce and current market strategies were similar.

A third set of data was purchased from Market Research Corporation of America (MRCA). Section IV presents an analysis of these data. The section contains information in the areas of household demographics, eater characteristics, meal and serving classifications, food usage and dish composition, and comparative information with other fruits. The data cover two time periods to allow for a comparison over a ten year interval. Throughout the section comparisons are made with information gathered from processors and retailers to determine the correlation between their perceptions and the actual consumption of applesauce.

Section V contains a summary, as well as recommendations for improving marketing strategies for applesauce. Suggestions for further research on the consumption and marketing of applesauce are also provided.

Section II

PROCESSOR ANALYSIS

This section contains information taken from two questionnaires used during interviews with seven applesauce processor representatives (referred to as processors or manufacturers). These processors handle the product of members of the Western New York Apple Growers Association. The interviews took place from October through December, 1983. A copy of these questionnaires can be found in Market Analysis and Strategies for Applesauce (Uetz, 1985). Questions were designed to obtain applesauce market information which would be beneficial in evaluating marketing strategies for applesauce. Two types of data were collected from the processors. Qualitative information was gathered during personal interviews. Quantitative information was gathered on five processing firms and their operations in the applesauce market. It must be emphasized that the qualitative responses of the processors are based on their perceptions of the status of the applesauce industry.

General Information

The applesauce processors interviewed generally felt that the primary consumers of applesauce were young children and middle-aged to elderly adults. The interviews identified female heads of households as the primary purchasers of the product. They seemed inclined to buy applesauce for babies and small children. One respondent characterized the average purchaser as a middle-aged female with a large family, low family income and little education. Only one of the respondents singled out schools as being large consumers of applesauce. It was generally accepted that young adults from the age of 18 to the late 30's or early 40's did not consume much applesauce.

All but one of the processors felt that applesauce had well-defined uses. They felt it was used primarily as an accompaniment or side dish, particularly with pork chops. They said it was also used as a dessert and as an ingredient in a limited range of recipes. The processor who felt applesauce did not have well-defined uses agreed that it was often used as an accompaniment. He noted, however, that in order to create a definite usage pattern with consumers, more usage ideas needed to be stimulated through the development of cooking and baking recipe suggestions. Consumers did not seem to experiment much with applesauce. Two processors stated that even though applesauce tended to have well-defined uses, there was a lack of variety and experimentation in these uses.

When asked what products were most competitive with applesauce, the processors gave a variety of responses. Two processors specified canned fruits such as peaches, pears and fruit cocktail as major competitors. Other responses included apple juice, bananas and items from the fresh produce section of the supermarket. One processor felt that there was nothing specific that competed with applesauce. Another stated that almost every competing product had outdistanced applesauce because applesauce had virtually been eliminated from the menu.

Image

When asked to discuss the image of applesauce among retailers and wholesalers, all of the processors classified it as a commodity. One processor stated that retailers and wholesalers viewed applesauce as an old-fashioned, good quality item that lacked excitement. Another processor indicated that applesauce was viewed as a "cheap fruit" with good margins but static growth. One interviewee placed the responsibility for the current commodity image on cooperative organizations and their marketing strategies, or lack thereof.

The processors generally felt that the commodity image of applesauce held by retailers and wholesalers had a negative effect on the marketing of the product at retail and wholesale levels. One processor stated that the commodity mentality was having a detrimental impact on the applesauce market. He said there must be a move to change that image and create brand loyalty. His perception was that cooperatives were only interested in the volume of cases shipped, while neglecting factors such as brand loyalty, image and market share. Other processors indicated that retailers and wholesalers stock applesauce simply because they always have. They provide little product differentiation and do not feature or promote applesauce as often as competing products. Applesauce does not seem to be marketed through an integrated use of all marketing variables at hand, just sold on the basis of price. Because of its commodity image, pricing played a major part in the marketing of applesauce. Processors felt retailers and wholesalers were more willing to handle the product when promotions and specials were made available.

When asked how they perceived the average consumers' image of applesauce, processors said consumers viewed it as an unexciting side dish or accompaniment, and lacked any new ideas for uses. One processor noted that consumers associated applesauce with good value and nutrition. Another felt consumers perceived applesauce as not particularly healthful, having low nutritional value and containing a lot of sugar. Still another processor revealed that he believed applesauce had lost its image among consumers. He implied that the younger generation was not aware of applesauce and its uses.

All of the processors felt the consumers' image of applesauce had done nothing to stimulate applesauce consumption. Because of a general lack of interest by consumers, processors perceived consumption as stable or declining. Changing family behavior was also thought to have had an impact. For example, large formal meals, which were often an occasion for serving applesauce, are now less common. It was suggested that although applesauce may be a once-a-week item to a good customer, with no new ideas for use and more competitive substitutes, increased consumption seemed unlikely.

In order to enhance the image of applesauce and make it more appealing to consumers, suggestions from processors were solicited. Their ideas included couponing, sweepstakes, cooking and baking recipe ideas, varietal features and promotions with other products. One processor recommended efforts to gain a greater acceptance of applesauce as a dessert or breakfast item. He also suggested selling consumers on the convenience of the product. Another processor proposed a long term approach; reeducating the younger generation on the uses and nutritional value of applesauce.

Product Maturity

Given the analysis of the product life cycle, applesauce exhibits many of the characteristics of a mature product. It is a product with little or no growth in per capita consumption. When applesauce processors were asked for possible causes of stabilizing applesauce consumption, responses reflected the need for innovations in usage and product development. Many felt that consumers found applesauce unexciting and had lost interest. Applesauce did not seem to be alone, however. Processors indicated that product consumption throughout the canned fruit industry seemed to be stagnating. While reflecting on possible causes of stabilization, processors once again raised the need for new uses of applesauce, new product development and more consumer education. One processor expressed a need to focus new marketing strategies on 18 to 35 year olds and to increase applesauce consumption among current users. Another respondent indicated that some poor quality applesauce may have had a negative affect on the demand for high quality brands. He also pointed out that there was currently an oversupply of apples and applesauce on the market. That oversupply resulted in such low prices that applesauce became unprofitable to handle, from the processor point of view.

The static nature of applesauce consumption has had adverse effects on the industry as well as individual firms. Since there seemed to be very little or no growth in the applesauce category, processors were putting their funds and resources behind other products that were growing in consumption. Consequently, they offered fewer promotions and features on applesauce. Price became a primary competitive factor. This probably has resulted in an increase in price competition and a decrease in profitability. One processor stated that currently, there were no decent marketing efforts underway for branded products.[1] He felt that it was private label products[2] that offered real growth potential. Another processor felt that unless a processing plant had a branded product, it would not be able to make money. The competition in unbranded products was too great. Only one interviewee indicated that the static nature of the market had little affect on his company. He said the high quality and brand image of his product enabled him to stay out of the price competition and

---

[1] Branded products are products which the processor manufactures and to which he applies his own label or "brand."

[2] Private label products are products sold in bulk by an initial processor to a distributor (wholesaler or retailer). The processor applies the distributor's label rather than his own.

still survive. His attitude was that "little or no growth in consumption means an opportunity (for his company) to (achieve) growth." He felt that if you gave consumers a reason to buy, they would buy.

Many firms appear reluctant to undertake new marketing initiatives for mature products because the cost and risks outweigh the potential returns. When asked if this was the case for applesauce, only one processor indicated that it did not apply to his firm's applesauce products. This sole respondent stated that his firm was willing to invest money in applesauce research and development, as well as advertising and promotion. His firm was able to achieve a good return on investment. The other processors all felt that there was a reluctance to put money into a marketing program. The return was not great enough. Companies might spend just enough to maintain their market share, but would invest the greater share of their marketing dollars in other more profitable products. Their perception was that it seemed to cost more to change minds through advertising than to introduce a new product. In any case, most applesauce processors seemed to be waiting for someone else to be the innovator in the industry.

Marketing Strategies

Processors were asked to comment on the applesauce market in general, as well as to discuss current marketing strategies. They were also asked to make suggestions on ways to improve the current applesauce marketing strategy. The following three subsections provide a summary of their responses.

General Market Information

For many industries, marketing strategies are constantly undergoing changes in order to improve returns and increase consumer demand. Several industries are experimenting with new product development and other marketing ideas. New strategies are being launched on a continuous basis. When asked what changes had occurred in applesauce marketing strategies over the last ten to twenty years, four out of the seven processors responded with one word, none. They felt that there had not been any major new developments in applesauce marketing strategies for many years. One processor implied that many firms were sitting back and waiting for others to develop the market. Another stated that because there had not been any changes in marketing strategy over the years, price was becoming increasingly important in the marketing of applesauce. The other three processors listed the following changes in marketing strategies for applesauce: increased involvement of industry groups in the promotion of products; the introduction of new flavors and varieties; newspaper and magazine advertising. One company also advertised on television. In addition, there was the mention of a move to find a niche for varietal applesauce.

Processors disagreed as to the profitability of applesauce at the wholesale and retail levels. Three processors believed that margins and profits tended to be better at the retail level. Three felt that there was very little difference in applesauce profitability at either level. Price competition for applesauce, on the other hand, was generally thought to be high at both the wholesale and retail levels. Only one processor felt it was more severe at the wholesale level. Many of the processors felt the volume of applesauce sales was primarily a result of pricing rather than other factors in an integrated marketing strategy. This had given rise to a high level of price competition in the industry.

According to four out of seven processors, applesauce competed poorly with other products for a firm's marketing resources. The reason was that applesauce did not seem to be a product with growth potential. Firms were not willing to put resources into a product with little growth potential. A fifth processor indicated that applesauce effectively competed with other canned fruits for marketing resources, but agreed that the consumption of applesauce was not growing. Another interviewee stated that with his company each product stood on its own. As a result, different products were not competing for the same marketing resources. With his company, a product's future depended on profitability and ability to compete in the market. The last processor said that his firm allocated resources to their entire product line rather than to each individual product. Given the nature of his product lines, he felt that this was the most effective way to utilize marketing resources.

Current Marketing Strategies

An important element of any marketing program involves ready access to a variety of market information. This information should include not only general sales and market share estimates, but also specific information on who consumes the product. The importance of consumer demographic information is often underestimated in many marketing programs. In order to position or target a product for a new or existing consumer group, demographic information such as age, education, income, race, sex and consumption habits is very important.

There are a number of organizations in the business of collecting market information, including demographics, and making it available to the industry. Some of these organizations include A.C. Nielson Company, Market Research Corporation of America (MRCA), National Food Processors, Selling Areas-Marketing, Inc. (SAMI), and the United States Department of Agriculture (USDA). Most processors subscribe to at least one of these organizations for market information.

The demographic makeup of major east coast applesauce markets is very diverse. The majority of applesauce processors felt that processing firms in the industry had access to accurate and thorough demographic information. It was implied, however, that most firms in the industry did not use the information effectively.

At least two processors felt marketing information supplied by outside organizations was not enough. In order to obtain "accurate and thorough" demographic information, these individuals felt that firms needed to conduct their own market research, and then put it to use for their own products. This type of research, however, is only conducted by companies who are willing to invest in their products' future. For many companies, such an investment would be a luxury. It has previously been indicated that most processors are unwilling to make this kind of an investment in applesauce because of its limited growth potential.

New product development is another area of major importance to all industries. In order to compete and hold consumers' interest, firms must constantly refine established items as well as introduce new products. New product developments do not necessarily require the investment of millions of dollars in research, but could involve minor adjustments in labeling, packaging, size of container, ingredients, etc. None of the processors interviewed believed that sufficient resources were being devoted to new applesauce product development. In fact, the majority felt that the resources being used in this area were very minimal. They viewed profit potential in this area as being inferior to those in other areas. One processor stated that packaging seemed to be the only area for applesauce development. Some processors indicated that they were experimenting with new techniques, but these were not yet ready for introduction.

Advertising is a critical element in any firm's marketing strategy. Often it is the tool used to develop awareness, encourage purchase behavior, and develop a brand franchise with the consumer. It is a major vehicle for informing consumers about product characteristics and values, for both current products and newly developed products. Realizing this, all of the processors saw a need for more effective applesauce advertising. They stated that there was basically no manufacturer advertising being carried out, and trade association advertising had not been very effective. Once again, many of the processors were reluctant to put resources into advertising applesauce because they felt they would not obtain a sufficient return on their investment.

A quantitative questionnaire was completed by five of the seven processors interviewed. Three of these five provided cost figures for advertising and promotion of all apple products , as well as a separate set of figures for applesauce. The expenditures made by these three firms for advertising and promoting all apple products (including applesauce) amounted to between 15 and 18 percent of the total sales for their apple products. This figure was less for applesauce alone. Two processing firms spent approximately 14 percent of their total applesauce sales on the advertising and promotion of applesauce. One spent only two percent of their applesauce sales for this purpose. These figures seemed to indicate, at least for these three representative firms, that the resources devoted to applesauce promotion programs were less than those for apple products in general.

The information provided by these five processors indicated that the majority of the funds spent on advertising and promotion of applesauce was focused on distributors (wholesalers and retailers) rather than on consumers. Figures listed for the percentage of advertising and promotional funds directed at distributors ranged from 55 to 99 percent. Consumer advertising and promotion, on the other hand, was only allocated between two to 35 percent of the funds devoted to applesauce marketing. All five of the processors used trade allowances,[3] with an average usage of eight times per year. Coupons[4] were used by four of the five firms with a frequency of one to five times per year. The five firms also indicated that they used one or more of the following advertising/promotion related marketing strategies during the year: consumer contests, trade contests, broker sales contests or public relations activities.

Only one of the processing firms completing the quantitative survey used more than one form of media to advertise applesauce. This company used the newspaper for most of its advertising, while also using consumer and trade magazines and television. Radio was also used by this firm, but much less often than other forms of media. The other processors used newspapers for all of their advertising. Concerning geographical reach, all but one of the respondents advertised exclusively at the local and regional levels. The remaining processor specified a greater proportion was devoted to local and regional advertising than national advertising.

Most of the processors interviewed were pleased that associations such as the Western New York Apple Growers were doing some generic advertising[5] for applesauce. However, they saw a need to expand both the amount of advertising and the scope of the programs. When the five respondents to the quantitative survey were asked about their involvement in cooperative advertising,[6] two processors revealed that they did no cooperative advertising for their entire apple product line. Two stated that only five percent of their advertising for apple products was on a cooperative basis. One of those interviewed advertised across the entire product line and did not have individual figures for apple products or applesauce. Three of the five processors indicated that they did more cooperative advertising for applesauce than they did for other apple products. Their figures indicated that one percent, 37 percent and 50 percent, respectively, of their applesauce advertising was done cooperatively.

It would seem that, given the lack of resources devoted to new product development and advertising by firms in the applesauce industry, there would be some form of incentive program to encourage an increase in the attention given to these areas. Five of the seven processors felt that there really was no incentive program that would stimulate growth and expansion in these areas of applesauce marketing. The other two interviewees indicated that the availability of more cooperative

---

[3] A variety of short-term offers to distributors, such as "cents-off" each case of the product purchased during a stated period of time.

[4] Certificates that entitle the bearer to a stated savings on the purchase of a specific product.

[5] Advertising a product, such as applesauce, without mentioning specific brand names. It results in the general promotion of "applesauce" as an individual category.

[6] Advertising jointly with other firms or with a trade association such as the Western New York Apple Growers Association.

advertising opportunities would be an incentive. They believed that if someone would help them "foot the bill" for advertising and research, more attention would be given to these activities.

Suggestions for Improving Marketing Strategies

When reviewing the current marketing strategies for applesauce, processors felt there were a number of areas where efforts could be made to enhance the market for the product. The two most common areas mentioned throughout the interviews were new packaging techniques and advertising.

The applesauce industry has experienced a major shift from tin to glass containers. Consumers could see the product through glass containers, and they were resealable after each use. Many in the industry felt that the use of glass containers for applesauce had been one of the primary factors contributing to its longevity. It had given applesauce the ability to compete more effectively with other canned fruit products. Two of the five processors responding to the quantitative survey stated that 100 percent of their applesauce was sold in glass, while the other three gave figures of 92, 72 and 57 percent. The latter three processing plants continue to pack the balance of their applesauce in tin containers. There was currently no other form of container on the market, but alternatives are being tested. Some are likely to be available in the near future.

It was pointed out that new packaging innovations must be able to provide a cost savings over glass and tin. They must also be convenient for the consumer. A number of packaging techniques were suggested as possibilities for use with applesauce. Some are currently in the experimental stage, while others may simply be ideas in the minds of researchers. Some of the possibilities include aseptic packaging, brik paks, form-fill-seal techniques, plastic bottles, and transparent pouches. For a description of these techniques, refer to Appendix A.

As for advertising, every processor mentioned the need for more, but none seemed willing to provide it. Most of the processors mentioned the value of advertising by the Western New York Apple Growers and other trade associations. They felt that advertising could be accomplished more effectively through groups rather than on an individual basis. They saw a need to promote applesauce as an ingredient in recipes and advertise other uses of the product. They felt this type of activity would help to increase sales.

An additional marketing suggestion for increasing applesauce sales was the development of new products such as applesauce mixed with strawberries, grapes, raspberries or pineapple. Varietal identification on labels was another alternative mentioned as appealing to consumers. A suggestion was made that Home Economic programs in schools be used to educate the young about the beneficial qualities of applesauce. Finally, there seemed to be a need and a desire for additional marketing studies, focus groups, and other types of market research. Such research would aid producers and processors in determining industry trends and market potential. It would also enable them to determine the direction to take in order to enhance the competitive position of applesauce in the future.

Additional Empirical Findings

As mentioned earlier, a quantitative questionnaire was completed by five of the seven processors interviewed. In that questionnaire, the five processors provided additional information on their operations, as well as general information on the applesauce industry. It is essential that the information be presented in a way that respects the confidentiality of the individual processors. While a small sample makes it difficult to present information and to draw adequate general conclusions concerning the industry as a whole, it is felt that the survey allowed for the collection of valuable information that permits the reader insight into what some firms in the industry are confronting today. Because the sample size is small, the reader must be cautioned not to draw specific conclusions from the data presented. On the other hand, there is no reason to believe the data is unrepresentative of the applesauce industry.

In order to know which products applesauce is competing with for resources at the processor level, each processor was asked to indicate the different types of products packed at his firm. In the general categories of fruit and vegetable products, four of those interviewed packed canned fruits, while three of the five packed frozen fruit and three canned vegetables. The five processors were also involved in the packing of one or more of the following: frozen vegetables, fresh vegetables, or fresh fruit. One processing firm also handled a line of vinegar products.

All five of the respondents processed applesauce. Three of the five were also involved in the processing of apple cider and three in apple juice. There was one firm that handled fresh apples and one that handled apple pie filling. One processing plant also had sliced apples and dried apples in its product line.

The individual household market sector was listed by all of the processors as contributing the most to applesauce product sales. Three of the processing firms supplied a small amount of applesauce to food service operations such as hospitals, restaurants and schools. Two made a small number of sales to the U.S. Government. Only one of the five firms exported applesauce, but that accounted for only a small portion of the firm's total sales.

There was some disagreement among processors as to what age category consumed the most applesauce. The categories in the quantitative survey included:

1. 5 years old and under
2. 6 to 17 years old
3. 18 to 44 years old
4. 45 to 64 years old
5. 65 years or older

All but the last category had at least one processor contributing 50 percent or more of his applesauce sales to that group. Estimates of consumption were widely dispersed, and processors differed as to which category seemed to have the highest percentage of sales. These diverse conclusions on the part of processors might indicate an uncertainty as to who the main consumers of applesauce are. As revealed earlier, processors generally felt that young children (5 years old and under) and middle-aged to elderly adults (45 years old and over) were the primary consumers of applesauce. When given age categories to choose from, however, five of the processors were in disagreement as to who the primary consumers might have been. This variability, or uncertainty, about who consumed the most applesauce may have had an adverse impact on the targeting of applesauce advertising and promotion for consumers.

There are many forms of applesauce on the market for consumers to choose from. According to the five processing firms, the two varieties of applesauce currently generating the most sales are regular applesauce and all-natural/unsweetened applesauce. Regular applesauce is still the most popular variety. Processors attributed anywhere from 47 to 93 percent of their total applesauce sales to that category. All-natural/unsweetened applesauce had a range of seven to 16 percent of sales. Processors also talked about several other varieties that contribute a small amount to applesauce sales. Two processing firms carry a chunky applesauce, and two carry single variety products (McIntosh, Golden Delicious, etc.). Flavored applesauce, such as cinnamon, is produced by two firms, and one processor indicated that they carry a dietary applesauce.

There was also a lot of competition in the applesauce market between branded and private label products. Many processors in the industry were packing private label applesauce. This category commanded approximately 45 percent of the market share for applesauce sales. Two of the five processors interviewed indicated that 100 percent of their applesauce sales were from their own brands. All five processing firms had some sales from branded products. The lowest figure reported for branded products was eight percent of total applesauce sales. Private label sales commanded 92, 75 and 43 percent of total applesauce sales for the three remaining processing firms. Only one firm reported that it carried a generic product. That product generated a low percentage of the firm's applesauce sales.

Based on the views of the five processors, applesauce does not seem to be a seasonal product. Processors' estimates for percentage of sales by season, as well as the overall average, are presented in Table 1. Winter had slightly larger sales than the other three seasons. However, the difference did not seem to be a large enough to indicate the presence of a definite seasonal pattern for applesauce sales.

When examining the popularity of different sized containers, the most popular jar among consumers seemed to be the 25 oz. size. Two of the five processors reported that at least 50 percent of their applesauce sales (in glass) came from this size. Other popular sizes seemed to be the large jars (35 oz. and 50 oz.). The smaller sizes (8 oz. and 15 oz.) contributed the least to sales volume. In tin containers, the #303 can had the highest volume of sales. The #10 can received the second highest volume.

TABLE 1

Estimated Percentage of Distribution of Final Applesauce Sales During the Year by Five Processors

Processors

Seasons	1	2	3	4	5	Processor Average
Spring	30	22	14	25	25	23.3
Summer	22	21	23	20	25	22.2
Fall	13	28	19	30	25	23.0
Winter	35	31	44	25	25	32.0

Future

Processors saw no marked changes in the applesauce industry in the future. Most of the processors expected applesauce to maintain its traditional place in consumers' diets because it was a convenient, economical and nutritious product. They did not, however, see any growth in per capita consumption of the product. They felt the only growth for applesauce would be as a result of the growth in the general population. Respondents indicated continued price competition, and the possibility of new entries and acquisitions. They felt manufacturers needed to be creative in order to generate additional sales for applesauce. Many processors suggested product differentiation might be used in order to make applesauce more attractive to consumers and more profitable to the firm. Many processors also realized a need to work as a group, using advertising and promotions as effectively as possible. They indicated a continual need to educate the consumer about applesauce. It was felt that consumers, in general, must be made aware of new product uses, and that applesauce is a healthful, nutritious, convenient product that is regularly offered at a reasonable price.

Summary

This section contains processor responses to questions concerning the marketing of applesauce. They began by discussing general applesauce market information. Most processors agreed that young children and middle-aged to elderly adults were the primary consumers of applesauce. They also indicated that applesauce had well-defined uses, primarily as a side dish to pork chops. The main product competitors listed for applesauce included canned peaches, pears and mixed fruit cocktail.

All processors felt that applesauce had a commodity image among retailers and wholesalers. They perceived consumers' image of applesauce as an unexciting side dish. Processors indicated that price competition was high, and that applesauce competed poorly for marketing resources because of the lack of growth potential. Most processors also felt that demographic information was not used effectively.

Processors indicated that applesauce is a mature product that is relatively unexciting. With little or no growth in per capita consumption, firms are putting funds behind other products that have greater growth potential. Firms were showing a reluctance to invest in the product because of small financial returns relative to other opportunities. Most processors seemed to be waiting for someone else to be the innovator in the industry.

Most processors indicated that there had been little or no change in marketing strategies for applesauce over the years. Firms were waiting for others to develop the market. All processors felt there was room for applesauce market enhancement. The main areas of focus were new packaging techniques and advertising.

Overall, processors tended to have a somewhat pessimistic view of the applesauce industry. Most expect applesauce to maintain its traditional place in the consumers' diet, but did not foresee any growth in per capita consumption of the product.

Section III

RETAILER ANALYSIS

A questionnaire, similar to the one used with the processors, was developed to gather information on applesauce from grocery wholesalers and retailers. Representatives from one grocery wholesale firm and ten chain operations (hereafter referred to as retailers) were personally interviewed in March, 1984. A copy of the questionnaire can be found in <u>Market Analysis and Strategies for Applesauce</u> (Uetz, 1985). Both quantitative and qualitative information was gathered. Once again, it must be emphasized that the retailers' qualitative responses were based on their perceptions of the applesauce industry. Throughout this section, comparisons are made to the responses gathered from processors.

General Information

There was some disagreement between retailers and processors as to who constituted the primary consumers of applesauce. Only two of the eleven retailers agreed with the processors. They said young children and middle-aged to elderly adults were the primary consumers. Two other retailers singled out families with children. The remaining retailers felt that applesauce appealed to every age group. They felt that everyone ate applesauce and that different blends and varieties appealed to different age categories. One retailer added that he felt the "Natural" blend had been targeted to teens and young adults. He felt that it may have activated a latent demand among members of this age group.

A majority of the retailers agreed with processors that applesauce has well-defined uses among consumers. They felt it was used primarily as an accompaniment or a side dish, often with pork chops. One respondent mentioned its use as a dessert, and another discussed its use in recipes. One retailer stated that applesauce use seemed to be well defined, and the industry should focus on other areas of concern. There was only one retailer who felt consumers did not have specific uses for applesauce. He felt that this was the product's biggest problem. He believed that new usage ideas were needed in order to develop consistent buying patterns among consumers. It was his opinion that if new usage ideas were developed, applesauce would be put on weekly shopping lists and consumption would increase.

Most of the retailers agreed that canned fruit, and occasionally canned vegetables, compete most often with applesauce for the consumers' dollars. Most processors gave the same response. Many retailers noted that consumers consider fresh produce to be in a category of its own. It is not viewed by consumers as an alternative to applesauce, canned fruit or canned vegetables. It is, therefore, not thought to be a major competitor of applesauce. Canned fruits that were specified as being most competitive with applesauce included pineapple, peaches, pears and fruit cocktail. One respondent also included cranberry sauce. One retailer pointed out that peaches, pears and fruit cocktail had become less popular with consumers as a result of short supplies. Shortages had resulted from poor weather conditions in major growing areas. This problem had created higher prices for these products. As a result, he suggested consumers were turning to alternatives such as applesauce and pineapple. Only one retailer felt that applesauce had no strong competition. He believed that if consumers were going to buy applesauce, they would buy it irrespective of any product alternatives. He perceived that customers would buy applesauce without making value comparisons with other products.

Like processors, retailers were asked to indicate what percentage of their applesauce sales occurred from branded, private label and generic products. Table 2 lists the responses for each of the three different labels.

TABLE 2

Percent of Retail Applesauce Sales Occurring from Branded, Private Label and Generic Products

	Retailers												
Product Type	1	2	3	4	5	6	7	8	9	10	11	Retail Average	Processor Average
Branded	65	75	40	35	44	50	50	53	38	70	40	51	55
Private Label	35	25	50	55	52	25	40	44	60	30	45	42	42
Generic	0	0	10	10	4	25	10	3	2	0	15	7	3

Many retailers mentioned the intensive competition between the two most popular types of products, branded and private label. Five of the eleven retailers currently handle more private label applesauce than they do branded applesauce. As with the processor level, generic applesauce does not constitute a large percentage of applesauce sales at the retail level.

Only five of the eleven retailers provided an estimate of the distribution of final applesauce sales over the year. These estimates, as well as an average for each period at the retailer level, are listed in Table 3.

TABLE 3

Estimated Percentage of Distribution of Final Applesauce Sales During the Year by Five Retailers

	Retailers					
Months	1	2	3	4	5	Retailer Average
Jan-Mar	22	30	25	35	30	28.4
Apr-Jun	25	20	30	15	20	22.0
Jul-Sep	25	25	15	15	15	19.0
Oct-Dec	28	25	30	35	35	30.6

Even though the retailer categories are labeled somewhat differently than those in the processors' survey (the processors' categories included spring, summer, fall and winter), the results are very similar. Applesauce sales are slightly higher during the winter months than during other seasons of the year. However, the difference is not substantial enough to justify the conclusion that there is a definite seasonal pattern to applesauce sales. Some retailers felt that sales dropped slightly during summer months, but seemed to pick up during the school year. They also felt that sales increased slightly around holidays, when larger more conventional family meals were eaten. One retailer believed that applesauce sales fluctuated more as a result of promotional and pricing activities rather than seasonal factors. The consensus, however, was that applesauce sales appeared to exhibit only a moderate seasonal trend.

When asked to consider the quality of different brands, only two retailers felt there was a difference among the brands they stocked. One retailer felt the blend of applesauce, and consequently the quality, would vary depending on where the apples were grown. He believed that apples used for sauce were harder and provided a better color when grown in certain areas of the country. Another retailer felt there was a difference in quality which consumers could not really perceive unless they opened and sampled several different brands. Therefore, he concluded, consumers do not really notice a disparity in quality between brands of applesauce. None of the other nine retailers found a quality differential between brands of applesauce. It was noted that all applesauce, whether branded, private label or generic, met USDA standards. They pass through very stringent quality control processes before they are sold. A few retailers noted that brands might vary slightly in color, taste and texture, but quality differences did not seem to be prevalent.

Image

Unlike processors, retailers believed that retailers, in general, had a very good image of applesauce. Only one retailer perceived that the product had a commodity image. The rest of the retailers felt it was a good volume item that was very promotable. They indicated it was often used as a traffic builder for the canned fruit category. Applesauce was thought to be a product leader that drew customers down the canned goods aisle. Retailers felt it was offered at a reasonable price to consumers and provided good margins[7] for retailers. Because applesauce had a positive image among retailers, they were willing to promote and display it regularly. Whenever manufacturers offered retailers a promotion or special for applesauce, most retailers indicated they would take advantage of it because they were confident it would sell.

Most of the retailers felt that even though it tended to be an impulse item, applesauce also had a positive image among consumers. Many retailers believed that the consumer saw applesauce as a product that was healthful, nutritious, economical and convenient. Two retailers mentioned that it was still often viewed as an old-fashioned product by consumers. One respondent also pointed out that applesauce was very palatable and could be used during times of "occasional irregularity."

According to retailers, this positive image of applesauce had not helped to increase the consumption of the product. Although two respondents indicated that the positive image had resulted in consistently increasing consumption, the majority of retailers felt it was simply maintaining its place in the market. Many retailers perceived Natural applesauce as offering possibilities for growth in consumption. It would, however, require more marketing attention. Even though very little effort had been made to advertise or promote the Natural variety, its consumption seemed to be increasing at a much faster rate than any other variety.

In order to enhance the image of applesauce, one retailer felt that more attention had to be given to promoting its economical aspects and versatility. Another retailer indicated a need to promote applesauce as a recipe ingredient or a pork side dish. Other suggestions included the removal of sugar from applesauce, as well as enhancing its color. In general, however, retailers seemed to feel that the current image and the potential for increasing product sales were good. As a result, they were ready to promote and display applesauce whenever manufacturers were willing to offer them the opportunity.

Marketing Strategies

Retailers were asked to provide information on the applesauce market, including general market information, current marketing strategies, and suggestions for improving current marketing strategies. Their responses are documented in the three subsections that follow.

---

7 An average retail gross profit margin of 24.6 percent was reported for applesauce in 1983 (Progressive Grocer, July 1984).

General Market Information

When retailers were asked to comment on changes that had occurred in marketing strategies over the last ten to twenty years, most gave the same response as the processors; "No changes have occurred." There were a few, however, who felt there had been some marked changes in the industry. One respondent pointed out that the introduction of Cinnamon, Natural and McIntosh varieties, as well as the proliferation of container sizes, had given the consumer several options. Another added that in addition to a complete line of glass containers, there was now better product labeling. In addition to listing ingredients, these labels provided helpful hints on serving. It was also mentioned that there had been some improved advertising and increased promotion. These changes were viewed as positive and were thought to have aided in creating an increased receptivity to the product on the part of consumers.

There was some disagreement among retailers as to sales trends over the last ten years. Only two retailers felt the trend had been downward. One stated that, in spite of this downward trend, applesauce was still one of the top selling canned fruit products. The other attributed the downward trend to the "sameness" of the product. He indicated that consumers were looking for something new from the product. Three retailers felt the trend for applesauce had been stable. The remaining six retailers were somewhat more optimistic about the product. They believed that sales trends had been increasing over the last ten years. One attributed this increase to large supplies, favorable prices and quality. Another retailer felt that the entire canned fruit industry had experienced increased sales because of the high volume of applesauce sales. Applesauce had been very responsive to advertising and promotions. It was also noted that poor weather conditions had resulted in shortages and high prices for other canned fruit products. These conditions might have contributed to increasing sales in the applesauce industry.

Most retailers viewed applesauce as a fairly profitable product for processors. There were only two retailers who felt profits were somewhat low at the processor level. One of these retailers stated that, in spite of low profitability, "when applesauce is in your blood, it is in your blood." He suggested that this was what kept many firms in the business. The majority of retailers viewed price competition at the processor level as moderate to high. Many indicated that in order to move the product, it had to be offered at a good price, which resulted in a high degree of price competition.

Interviewees had divided opinions concerning the retail profitability of applesauce. Some retailers felt that profit margins were extremely small. One respondent stated that, "If (our company) lived on the gross margins of this product, we would be out of business." Other retailers believed that applesauce was a profitable item. All retailers agreed about the extent of price competition within the applesauce category at the retail level. They all felt that price competition tended to be high. Aggressive manufacturer promotions resulted in constant price reductions which undercut competitive prices in an attempt to increase sales.

When interviewing processors, a majority indicated that applesauce did not effectively compete with other products for a firm's marketing resources. However, when retailers were asked if applesauce was able to effectively compete for shelf space in the supermarket, all but one felt it was able to compete. Their rationale was that applesauce was promotable, versatile, a traffic builder, and a volume item. One respondent stated that applesauce represented the strength of an otherwise declining category. Another respondent stated that applesauce tended to have more shelf space than any other item in its category. It was also mentioned that glass containers provided a competitive edge over tin containers. Tin containers were used for most other products in the category. The respondent who said applesauce did not effectively compete for shelf space also said that the applesauce section in their stores was too small given the sales volume. He felt that the sales volume of applesauce was substantial enough to warrant increased shelf space. He suggested that an aggressive brand was needed to set the pace for the entire product line. In his opinion, an aggressive brand might enable applesauce to be more competitive and command the shelf space it deserves.

As mentioned earlier, a majority of retailers did not perceive a quality difference between applesauce brands. Only one retailer indicated that quality differences did affect the brands they displayed. He preferred applesauce made from apples grown in a specific area of the country. He only stocked applesauce made from those apples. The other retailers felt that differences in quality had no direct affect on the brands they carried. One respondent stated that their stores focused on price rather than quality when buying applesauce. He suggested that perhaps what was most important was that individual brand sales figures were ultimately indicative of customer preferences. Therefore, these figures largely determined the amount of each brand that they stocked.

Current Marketing Strategies

Only two retailers believed processors had done an effective job of marketing applesauce. There were also three who indicated that processors had been doing a fair job, but should be doing a lot more with the product. Six of the eleven retailers, however, felt processors were not doing a very effective marketing job. Many compared marketing efforts for products like canned pineapple, orange juice and cranberries with the marketing of applesauce. Their conclusion was that very little innovative marketing was being conducted with applesauce. One respondent believed that price was the predominant factor which enabled the product to sell. Another believed that the only thing manufacturers were doing to develop the market for applesauce was issuing coupons.

Like processors, retailers saw a need for additional resources for new product development. Two retailers, however, indicated they were unable to see what else could be done with the product. One retailer commented that the Natural variety of applesauce was a major development. He also felt, however, that processors had failed to invest the kind of resources necessary to get the product off the ground. Some of the retailers also mentioned that there had been no real innovation in advertising or in new packaging techniques for applesauce. Even so, one of the respondents stated that he believed processors had "seen the light" and were moving toward value-added activities to increase the demand for applesauce.

According to a majority of retailers, recent sales trends had little or no effect, from their standpoint, on the number of applesauce promotions and specials they offered. Most retailers said they offered promotional programs whenever specials and promotional offers were forthcoming from manufacturers. Only four respondents felt the number of promotions and specials offered had increased due to recent sales trends for applesauce.

Branded products seemed to command the most attention for advertising and promotions. However, private label products were not far behind. Very little advertising and promotion occurs for generic applesauce. When asked about the effectiveness of advertising and promotion for applesauce, most retailers agreed with processors that these programs had been somewhat inadequate. Retailers said that they advertised applesauce from four to ten times per quarter. Once again, most retailers indicated that they ran promotions and advertisements for applesauce whenever a manufacturer offered them. They saw a need for more promotions. They wanted manufacturers to put more time and money into the advertising of the product in order to draw consumers into their stores.

In order to determine how often various types of promotions were made available by manufacturers to retailers, the retailers were given a list of promotional alternatives and asked to indicate the frequency of availability. They were asked to use a scale of from one to six. A "1" signified that it was never offered, and a "6" indicated that it was always made available. The frequency of availability of various types of promotions to retailers is listed in Table 4.

All retailers were positively inclined toward any and all manufacturer promotions for applesauce. Most retailers had a buying allowance available a majority of the time. One retailer noted that he felt these were the most important types of promotions offered to distributors. He also pointed out that free goods were effective, but tremendously expensive. He added that perhaps the applesauce industry could take some tips on promotions and advertising from the Florida Citrus Growers, who seem to have a very effective program. Their program is very informative on uses for the product, and includes coupon and sweepstake promotions as well as mass media advertising. Another respondent stated that if they were offered cooperative display allowances, they would definitely use them. He added that a display contest might be a good idea. He also mentioned the Florida Citrus Growers and their excellent program. One retailer indicated his company was continually offered free goods (Table 4). He qualified this by adding that they were offered free goods when asked to introduce a new item.

Retailers were then asked to indicate how often they included specific consumer promotions in their applesauce marketing efforts. Their responses are listed in Table 5. They were asked to use a scale of from one to six. A "1" signifies that it is never offered and a "6" indicates that it is always offered for applesauce.

TABLE 4

Frequency of Availability of Various Types of Promotions Offered to Retailers

Promotional Alternatives	Scale: Never Offered 1	2	3	4	5	Always Offered 6
Buying Allowance[a]	0	0	1	0	2	8
Coop. Advertising Allowance[b]	3	2	4	0	1	1
Coop. Display Allowance[c]	5	1	2	1	1	1
Contests	10	1	0	0	0	0
Free Goods[d]	7	1	2	0	0	1[e]
Others	11	0	0	0	0	0
Do you participate when they are offered?	0	0	0	2	4	5

[a] A short-term offer of cents-off on each case purchased during a stated time period.
[b] Compensation for featuring a manufacturer's product in advertising.
[c] Compensation for carrying or building special displays of a product.
[d] Extra cases of merchandise offered to distributors who buy a certain quantity.
[e] Always offered free goods when asked to introduce a new product.

As noted in Table 5, retail coupons are used more often than any of the other promotional alternatives. Still, there were more responses for this consumer promotion on the low end of the scale than on the high end. A retailer indicated that price-off packs were effective, but created problems with inventory when the offer was discontinued. Another retailer stated that, rather than using price-off packs, he preferred to receive trade allowances from manufacturers and then price them accordingly. The "others" listed in the table include television promotions and additional cut-price features offered to customers. A majority of the consumer promotions offered at the retail level seemed to be a direct result of manufacturer trade promotions. Seven of the eleven retailers stated that manufacturer trade promotions always led to consumer promotions. One retailer commented that if they were not offered promotions from

TABLE 5

Frequency of Consumer Promotions of Applesauce by Retailers

Promotional Alternatives	Scale: Never Offered 1	2	3	4	5	Always Offered 6
Retailer Coupons	4	2	1	2	1	1
Sweepstakes	9	1	0	1	0	0
Contests	10	0	0	0	0	1
Price-off packs[a]	10	0	1	0	0	0
Others	9	1[b]	0	0	1[c]	0
Consumer promotions resulting from manufacturer trade promotions.	0	0	1	0	3	7

[a] An offer of a certain amount of money off the regular price of a product.
[b] Television promotions.
[c] Additional cut-price features.

manufacturers, they did not offer them to the consumer. Another stated that all products which offered a promotion were included in their advertising program.

Suggestions for Improving Marketing Strategies

The retailers appeared to be in agreement with the processors concerning possible ways of improving marketing strategies for applesauce. They felt that two areas which needed attention were new packaging techniques and advertising. Regarding new packaging techniques, many retailers suggested the use of aseptic packaging or brik paks (description in Appendix A). They felt these would work very well with applesauce. Another suggestion involved the use of a 6 or 8 oz. jar with a flip lid. It could be used for lunches and snacks. These containers would be cost efficient and provide additional customer convenience. These are the kind of new packaging characteristics and features retailers felt were needed for the effective marketing of applesauce. In addition, one retailer suggested that, for New Yorkers, the inclusion of "New York State Apples" on labels might foster a sense of state pride. He also felt it might convey a sense of quality assurance when homegrown apples are used.

The retailers had many suggestions for improving the advertising of applesauce. They believed that an emphasis must be placed on continually educating consumers regarding the healthful, nutritious, economical and convenient characteristics of the product. Retailers also indicated a need to inform consumers about the uses of applesauce. It was suggested that advertising must promote the idea of using applesauce as an additive or ingredient in recipes. Another suggestion was that promotions might be run in combination with other products such as pork, sugar or flour. Natural applesauce was a variety that retailers felt deserved extensive advertising. This variety has no sugar added. As a result, it has excellent market potential among health conscious consumers. Consequently, it is a good product to target toward young adults, as well as consumers in general. Retailers felt there was a need for an increase in all types of media advertising and that cooperative advertising might be very beneficial for the applesauce industry.

In addition to media advertising, retailers felt there were a number of ways to enhance the appeal of applesauce. Firms must work to improve the shelf appearance of the product. One suggestion was to provide point-of-purchase materials, including pamphlets and "danglers", which provide recipes and other use ideas. These materials should also provide general information about the product. Coupons have become very popular among consumers. A suggestion was made for the use of an on-pack instantly refundable coupon. Double coupons for applesauce may also be effective in moving the product. One respondent suggested that processors allocate funds for aggressive retailers to advertise and promote applesauce. The manufacturer would contribute information to include in advertisements (characteristics, usage, etc.). The retailer would then be allowed to use the funds to provide an effective advertising and promotional campaign for the product.

Packaging and advertising were not the only marketing strategies suggested for improving applesauce sales. In relation to new product developments, one suggestion encouraged more varietal packs. These packs would feature a special apple such as a McIntosh or a Golden Delicious. Such packs might attract customers who prefer these apples and feel they are getting a better product when it is made from an apple they are familiar with and like. Another suggestion, which focused on the current health consciousness of consumers, involved a product that was sodium free. With "sodium free" noted on the label, the product might be more appealing to consumers who are looking for a more nutritious and healthful product. Finally, relative to new product developments, one retailer seemed unhappy with New York State applesauce in general. He felt the characteristics of New York State applesauce were inferior to those in some other states. He suggested that New York State processors needed to work on basics like color, texture and taste to make the product more appealing to the consumer.

In addition, one retailer had encountered problems supplying the product to his stores. He identified a need for brokers and sellers to oversee their deliveries and stockings all the way to the consumer, especially for advertised brands on special. He had seen a problem with middlemen doing a poor job of supplying the product to the retailer. This adversely affects the retailer who is ultimately responsible for stocking the advertised product. This also alienates consumers who are looking for the advertised product to be adequately supplied.

Future

When discussing the future, retailers, in general, felt that applesauce was a product that would be around for a long time. However, a few suggested that it would be difficult to increase per capita consumption. Overall, many of the retailers still felt applesauce had a potentially bright future. One respondent commented that because it was a healthful, plentiful product that seemed to appeal to most age categories, it was here to stay. He added that it had been one of the best movers in its category for a long time. Another retailer stated that as long as there was a good supply of the product and manufacturers offered promotions, their stores would continue to promote applesauce. Like the processors, many retailers mentioned that they believed applesauce would sell extremely well due to the current short supply of many competitive canned fruits. Many retailers stressed the need for increased advertising to educate consumers on the uses and nutritional values of the product. If such advertising also emphasizes the convenient and economical aspects of the product, then a bright future for applesauce might become more than a possibility.

Summary

In general, retailers seemed to be more optimistic about applesauce than processors. They felt retailers viewed applesauce as a good volume item that was promotable. Applesauce was thought to have a healthful, nutritious, economical and convenient image among consumers. Unlike processors, most retailers felt applesauce had a universal age appeal. They felt it was mainly used as an accompaniment to pork and as a dessert item. A list of applesauce competitors included canned pineapple, peaches, pears and mixed fruit cocktail. Applesauce did seem to effectively compete for shelf space in the supermarket. It was thought to be promotable, versatile, a traffic-builder and a volume item.

Retailers were unable to see any innovation in marketing strategy for applesauce over the years. A majority of retailers felt that processors had not done an effective job of marketing applesauce, and they saw a real need for improvement. Like processors, retailers viewed new packaging techniques and advertising as the two main areas in which marketing strategies needed to be improved.

Overall, retailers felt applesauce would be around for a long time, and that it had the potential for a bright future. They indicated it would take initiative on the part of applesauce processors, however, to enhance current marketing strategies and make changes that would help to advance the marketability of applesauce and possibly increase per capita consumption of the product.

Section IV

CONSUMER ANALYSIS

This section presents information on actual consumption habits of consumers. Data used were obtained from a Menu Census Study conducted by the Market Research Corporation of America (MRCA). The information presented is derived from an analysis of that data. A Menu Census Study contains detailed information on the preparation and consumption of food and beverage items. The information is recorded by participating United Stated households. The data reflect an analysis of the consumption habits of 4000 households.[8] The year-long study analyzes an average two-week period. This section is divided into five areas: Demographics, Eater Characteristics, Meal and Serving Classifications, Food Usage and Dish Composition Analysis, and Comparative Information with Other Fruits. (Note: Additional household serving information is discussed in Uetz, 1985).

Data obtained from MRCA on Demographics, Eater Characteristics and Meal and Serving Classifications covered applesauce consumption at-home, as well as away-from-home foodservice consumption and consumption at other homes for July 1981-June 1982. However, away-from-home consumption (foodservice and other homes) amounted to only a small percentage of total applesauce consumption for the three areas. For this reason, only at-home applesauce consumption is discussed in the Demographics and Eater Characteristics sections. Certain valuable information is, however, included on away-from-home foodservice applesauce consumption in the Meal and Serving Classification section. This provides several insights into the type of foodservice operations which contribute the most to applesauce consumption.

Demographics

The purpose here is to show how household demographics affect the consumption of applesauce. According to MRCA, the data used to derive this information were based on "standard" MRCA data selection. "Standard" data selection refers to data selected by analyzing first-time and leftover uses of base dishes and additives, as well as first-time uses only of components, ingredients and agents (for a definition of these terms, see Appendix B). The data which were examined for this section are reported for two time periods; July 1972 through June 1973 and July 1981 through June 1982. This allows for a comparison of results over a ten year interval. The data reflect analysis of consumption by 4000 households for an average two-week period. These households contained 12,337 members in

---

8 For recent time periods, data were collected from a sample of only 2000 households and the figures were doubled. The number of households, however, continues to be reported as 4000 in order to maintain compatibility with previous Menu Census Study reports.

1972-1973 and 11,054 members in 1981-1982. These data reflect an examination of the at-home consumption of plain and flavored applesauce by household members and guests. Table 6 summarizes the distribution of applesauce consumption according to household demographics.

Table 6 provides information for twelve demographic categories. Each of these twelve demographic categories, in turn, is broken down into several subcategories or characteristics. Table 6 contains information covering two time periods, July 1972-June 1973 and July 1981-June 1982. This information represents the number of households using/serving (used interchangeably throughout this section) applesauce at home over an average two-week period each year. The "High" column in Table 6 indicates the subcategory or characteristic within each category which has the largest number of households using applesauce. The "Low" column indicates the subcategory or characteristic which has the smallest number of households using applesauce. The "Degree of Difference" column contains a relative comparison between the "High" and "Low" columns for each category. These comparisons are based on index number percentage points. That is, each category was normalized for differences in sample size,[9] and the index number percentage points are used to reflect this normalization. All subsequent information in this section reflects samples which have been normalized. For example, an interpretation follows for the "Census Areas" category for July 1972-June 1973 in Table 6: The total number of households using applesauce at-home over an average two-week period was highest in the Northeast census area. The lowest number of households using applesauce for this same period was in the Southern census area. Furthermore, the "degree of difference" between the high usage census area (Northeast) and the low usage census area (South) was "substantial" during this period.

A map of the areas and regions surveyed for this data is contained in Appendix C. A complete and methodical listing of all characteristics under each category is found in Appendix D.

When these data are compared over the ten year interval, several differences are worth noting. In the "Census Region" category, the number of West North Central and Mountain region households using applesauce had increased considerably. In the latter time period these regions ranked high in the number of households consuming applesauce relative to other regions. It appears that there may have been an increase in applesauce marketing efforts in these regions over the ten year span. Such efforts could have caused the increase in consumption. Over the years, there was also a decline in the number of households consuming applesauce in the Pacific and especially in the New England regions. This may be a reflection of the somewhat negative attitude processors conveyed relative to the applesauce industry. Data collected from Northeastern processors and retailers indicated that very little had been done to market applesauce

---

9 Because the sample size for each characteristic within each category was different, an index number was calculated to correct for sample size. This allows for an effective comparison between characteristics within each category, even though sample sizes differed.

TABLE 6

At-Home Household Demographics: Number of Households Using Applesauce[a]

Categories	High[c]	Low[d]	Degree of Difference[e]
	July 1972 - June 1973[b]		
Census Areas[f]	Northeast	South	Substantial
Census Regions[f]	Mid Atlantic	West South Central	Substantial
Metro Area Size	500,000-1 million	Farm	Moderate
Household Income	$23,000 and over	Under $5,000	Moderate
Household Size	2 persons	1 person	Moderate
Presence of Children	Under 6 yrs only	13-17 yrs only	Moderate
Age of Homemaker	65 yrs and over	Under 25 yrs	Substantial
Homemaker Employment	Not employed	Employed	Moderate
Occupation - Household Head	Not a worker	Blue collar	Slight
Education - Household Head	13 yrs and over	9th-12th grade	Slight
Race	White	Non white	Substantial
Seasonal Totals	Oct-Dec	Apr-Jun	Moderate
	July 1981 - June 1982[b]		
Census Areas[f]	Northeast	South	Moderate
Census Regions[f]	Mid Atlantic	West South Central	Substantial
Metro Area Size	250,000-500,000	Under 2,500	Moderate
Household Income	$23,000 and over	$13,000-18,999	Slight
Household Size	5 or more persons	1 person	Moderate
Presence of Children	Under 6 & other ages	None	Moderate
Age of Homemaker	25-34 yrs	Under 25 yrs	Substantial
Homemaker Employment	Not employed	Employed	Slight
Occupation - Household Head	Farmer	Blue collar	Slight
Education - Household Head	13 yrs and over	9th-12th grade	Moderate
Race	White	Non white	Moderate
Seasonal Totals	Jan-Mar	Apr-Jun	Substantial

[a] Sample of 4000 households containing 12,337 members in 1972-1973 and 11,054 members in 1981-1982.
[b] Applesauce consumption for an average two-week period during each time interval.
[c] Subcategory or characteristic having the highest number of households using applesauce.
[d] Subcategory or characteristic having the lowest number of households using applesauce.
[e] Degree by which "Low" characteristic differed from "High"; based on index number percentage points after normalization for differences in sample sizes. Degree differences include: about same (<10 percentage points), slight (10-19), moderate (20-39), substantial (40-100), extreme (>100).
[f] See Appendix C for map of areas and regions.

SOURCE: MRCA Menu Census.

over the years. This might have had a negative affect on consumers' applesauce product buying habits. They had, perhaps, not seen innovations in the industry to stimulate interest in the product.

The number of farm households consuming applesauce had increased over the years. In addition, large income households ($23,000 and over) continued to use more applesauce than other households. However, there was a shift for other income brackets over the ten year interval. Lower income households ($0 - $12,999) seemed to have increased their consumption of applesauce, relative to middle income households ($13,000 - $22,999). There has also been a shift within the "Household Size" category. Households containing five of more persons (presumably more children) increased their consumption of applesauce, while households with two persons (presumably no children or just one child) decreased their consumption. The applesauce consumption for other categories in Table 6 seemed to have remained consistent over the ten year interval.

Several comparisons are relevant between the data presented here and the data gathered from processors and retailers and discussed in Sections II and III. During interviews, processors noted that applesauce needed more marketing attention in the South and West. It was felt that these were untapped areas that might allow for future expansion and growth of the applesauce market. One processor also mentioned a potential market of Blacks and Hispanics. He added, however, that given the current state of the applesauce industry, there was no need for their company to hurry in pursuit of these groups. He felt no other company in the industry had enough initiative to beat them to it. As illustrated in Table 6, the processor observations are in agreement with the data presented in the "Census Areas" and "Race" categories.

Both retailers and processors agreed with study conclusions concerning the affect children have on the consumption of applesauce. Data indicate that the largest number of households using applesauce are those with children under the age of six. Retailers and processors felt that young children and middle-aged to elderly adults were the primary consumers of applesauce.

The "Seasonal Totals" category and information collected from retailers and processors also reflected similar conclusions. The data suggested that the largest number of households consume applesauce during the colder months (October-December and January-March). Seasonal differences, however, were not significant. Processors and retailers made the same observation. From their perspective applesauce consumption seemed to be slightly higher during the winter months, but the difference was not significant enough to indicate the presence of a definite seasonal pattern for applesauce sales or consumption.

Eater Characteristics

Here we will focus on eater characteristics and how they affect the consumption of applesauce. Like the demographic data, the data in this section were based on "standard" MRCA data selection. Information was collected for the same two time periods, and represented consumption by

4000 households during an average two-weeks. The data reflect analysis of the consumption of plain and flavored applesauce by household members only (this information was not available for household guests). The eater characteristics data are summarized in Table 7.

Eater Characteristic's Table 7 is divided into three general sections; Sex, Age and Diet Status. Each section is further divided into categories reflecting gender, age range and type of diet. Each category is then further divided into specific subcategories or characteristics. The data reflect analysis of the number of household members who ate applesauce at home for an average two-week period during the year. The full range of household member characteristics are compared. Table 7 contains "High", "Low" and "Degree of Difference" columns like those in Table 6. Once again, each category was normalized for differences in sample size.

The "Age" section for July 1972-June 1973 provides an example of how to interpret the information contained in Table 7. The male member category indicates that more male household members 65 years of age and above ate applesauce at home for the average two-week test period than those in any other male age group. Conversely, fewer males between 18 and 24 years of age ate applesauce during this same period relative to other male age groups. The "degree of difference" between the number of males between 18 and 24 years of age eating applesauce and the number of males 65 and above eating applesauce was "substantial." For a complete and methodical listing of all characteristics in each category, see Appendix D.

When comparing data over a ten year interval, there does not seem to be any significant change. For both males and females, the elderly (65 years old and over) and young children (< 12 years old) consumed the most applesauce during both time periods. Young to middle-aged adults (13 to 44 years old) consumed the least. These data are in line with retailer and processor observations. They also indicated that the very young and middle-aged to elderly adults were the primary consumers of applesauce. The processors in this study appear to be correct when they indicated that young adults (particularly 18 to 24 years old) consumed the least amount of applesauce. This was also the conclusion drawn from an analysis of the data for both male and female household members. Several processors suggested that efforts must be made to target a product toward this age group. Retailers felt the Natural variety of applesauce activated latent demand among young adults.

A comparison of the 1972-1973 data and the 1981-1982 data indicates that there were no significant changes over the ten year interval.

Meal and Serving Classification

The data for this section provided information on at-home meal and serving classifications. The study analyzed the consumption of plain and flavored applesauce by household members and guests. The data were collected in the same manner as in the two previous sections. The data for this section are summarized in Table 8.

TABLE 7

At-Home Eater Characteristics: Number of Household Members Eating Applesauce[a]

Categories	July 1972 - June 1973[b] High[c]	Low[d]	Degree of Difference[e]	July 1981 - June 1982[b] High[c]	Low[d]	Degree of Difference[e]
Sex						
Male/Female Totals	Females	Males	About same	Females	Males	About same
Age						
Male Members	65 yrs & over	18-24 yrs	Substantial	2-5 yrs	18-24 yrs	Substantial
Female Members	65 yrs & over	18-24 yrs	Substantial	6-12 yrs	18-24 yrs	Substantial
Diet Status						
Males Under 18 Yrs	On some diet	No diet	Slight	No diet	On some diet	About same
Males 18 Yrs and Over	Medical/Health	No diet	Substantial	Medical/Health	Watching/Gaining	Moderate
Females Under 18 Yrs	On some diet	No diet	About same	No diet	On some diet	About same
Females 18 Yrs and Over	Medical/Health	No diet	Moderate	Medical/Health	Losing	Substantial

a Sample of 4000 households containing 12,337 members in 1972-1973 and 11,054 members in 1981-1982.
b Applesauce consumption for an average two-week period during each time interval.
c Characteristic identifying largest number of household members in each category who ate applesauce.
d Characteristic identifying smallest number of household members in each category who ate applesauce.
e Degree by which "Low" characteristic differed from "High"; based on index number percentage points after normalization for differences in sample size. Degree differences include: about same (<10 percentage points), slight (10-19), moderate (20-39), substantial (40-100), extreme (>100).

SOURCE: MRCA Menu Census.

Table 8 contains information on the number of households using applesauce at home for various meals and occasions. It covers two time periods, and consists of "High", "Low" and "Degree of Difference" columns like tables presented in the two previous sections. Using the "Days of the Week" category for 1972-1973, here is an example of how to interpret Table 8. During an average two-week period more households used applesauce for meals on Tuesdays than on any other day of the week. Applesauce was used the least on Sundays relative to other days of the week. The "degree of difference" between the number of households using applesauce on Sundays and on Tuesdays was "substantial." For a complete and methodical listing of all meals/occasions in each category, see Appendix D.

When data in Table 8 were compared over a ten year interval, Wednesday replaced Tuesday as the most popular day for households to serve applesauce. Saturday replaced Sunday as the least popular day. Another difference during 1981-1982 was that more households were likely to serve applesauce as a snack in the afternoon as opposed to other snacking occasions. In 1972-1973, applesauce was served by a greater number of households as an evening or bedtime snack. Other than these changes, the data for the two time periods were quite similar.

It might also be noted that in the table, the most popular uses for applesauce at a main meal were as a dessert and as a side dish, respectively. Most processors and retailers indicated they felt the primary uses for applesauce were as a dessert or a side dish for a meal. A side dish usage, however, was mentioned more often than a dessert usage.

These data also provided information on away-from-home foodservice meal and serving classifications. This information was presented like the at-home information, but covered only one time period, July 1981-June 1982. Foodservice operations serve applesauce almost exclusively as a base dish. Applesauce consumption was the most popular in school foodservice operations. The second most popular foodservice use for applesauce was in table-service restaurants (as opposed to counter-service). There was very little applesauce consumption in fast food outlets or in upscale foodservice chains or hotels. The most popular days of the week for foodservice applesauce consumption were Mondays and Tuesdays respectively. The least popular days were Saturdays and Sundays. This may reflect the fact that certain types of foodservice operations are closed on these days. Lunch was by far the most popular meal for serving applesauce at foodservice facilities. This was probably because schools, whose main serving occasion is lunch, were the most popular foodservice facilities serving applesauce.

Food Usage and Dish Composition Analysis

Here, information is provided on applesauce use in the home during an average two-week period between July 1981-June 1982. Once again, the sample consisted of 4000 households with 11,054 members. The data from which this analysis was taken included first-time and leftover uses of base dishes, as well as first-time and leftover uses as an additive, component, ingredient or agent (ACIG). A qualitative summarization of the data provided by MRCA is presented in this section.

TABLE 8

At-Home Meal and Serving Classification: Number of Households Using Applesauce by Occasion[a]

Categories	July 1972 - June 1973[b] High[c]	Low[d]	Degree of Difference[e]	July 1981 - June 1982[b] High[c]	Low[d]	Degree of Difference[e]
Days of Week	Tuesday	Sunday	Substantial	Wednesday	Saturday	Substantial
Occasion for Use	Main meal	Snack	Extreme	Main meal	Snack	Extreme
Main Meals	Dinner	Breakfast	Extreme	Dinner	Breakfast	Extreme
Snacks	Evening/Bedtime	Morning	Slight	Afternoon	Morning	Slight
Position of Main Meal	Dessert	Other dishes	Extreme	Dessert	Other dishes	Extreme

[a] Sample of 4000 households containing 12,337 members in 1972-1973 and 11,054 members in 1981-1982.
[b] Applesauce consumption for an average two-week period during each time interval.
[c] Meal or occasion during which the largest number of households in each category used applesauce.
[d] Meal or occasion during which the smallest number of households in each category used applesauce.
[e] Degree by which "Low" characteristic differed from "High"; based on index number percentage points after normalization for differences in sample size. Degree differences include: about same (<10 percentage points), slight (10-19), moderate (20-39), substantial (40-100), extreme (>100).

SOURCE: MRCA Menu Census.

Plain applesauce was used much more often as a base dish than as a non-base dish (ACIG) during the study period. However, there were a variety of uses for plain applesauce as a non-base dish. Over an average two weeks, the largest number of households using plain applesauce as a non-base dish used it in layer or loaf cakes. Other popular uses for plain applesauce, when not used as a base dish, included use in gelatin-based salads, whole or cracked wheat bread, and with cottage cheese.

In addition to analysis of the number of households using plain applesauce, analysis of the number of times plain applesauce was served by households was presented. Plain applesauce was also served more often by households as a non-base dish in layer or loaf cakes than in any other form. Other popular uses for applesauce as a non-base dish, when analyzing the number of times served, included its use in plain cookies, cooked white potatoes, cottage cheese and cracked or whole wheat bread.

As with plain applesauce, flavored applesauce was used much more often as a base dish than as a non-base dish during the test period. The number of uses for flavored applesauce as a non-base dish were so small that specific listings were not made available.

During this same period (July 1981-June 1982) both plain and flavored applesauce were often used as base dishes with other food items mixed into or put onto them. Plain applesauce again was used more often by itself as a base dish than in combination with other products. However, when something was added to plain applesauce, more households mixed in deciduous fruits (fruits grown on trees) than any other additive. Plain applesauce, with other deciduous fruit added, was also served more over an average two weeks than plain applesauce with any other product mixed in. The two other most popular additives, when analyzing both the number of households using and number of times served, were granulated sugar and spices.

During an average two weeks, flavored applesauce was served more often with other products mixed into or put onto it than by itself. The four products most frequently added to flavored applesauce were spices, other deciduous fruits, granulated sugar and lemon. These four additives are listed in descending order.

Comparative Information With Other Fruits

Here comparative information is provided on seven fruit categories: plain applesauce, flavored applesauce, cling peaches,[10] freestone peaches,[11] unidentified peaches,[12] pears and mixed fruit cocktail. The data were again obtained from a MRCA Menu Census and set up in tables similar to

---

10 Cling peaches are peaches in which the flesh (edible part) of the fruit sticks (clings) to the seed. Cling peaches are used mainly for processing, particularly in California.

11 Freestone peaches are peaches in which the flesh tends not to stick to the seed. These peaches are used mainly for fresh consumption.

12 A generic category used when households neglected to identify peaches served as cling or freestone.

the rest of the data analyzed in this section. These data reflect analysis of consumption by 4000 households over an average two-week period. These households contained 12,337 members in 1972-1973 and 11,054 members in the other time periods. These data were based on "standard" MRCA data selection. This section is divided into two subsections; Comparison of Total Usage and Comparison of Times Served (Three Levels).

Comparison of Total Usage

This subsection will compare seven different fruit categories based on the total number of households using each. The comparison will be made across three different time periods; Period 1: July 1972-June 1973; Period 2: July 1981-June 1982; Period 3: April 1982-March 1983 (Note that there is a ten year interval between Periods 1 and 2, but some overlap in time between Periods 2 and 3). Table 9 has been set up to compare the number of households using each fruit during an average two-week period. Comparisons will be made for each of the aforementioned time periods. In order to protect the confidentiality of the actual figures provided by MRCA, a base number system has been established for comparisons. The number of households using unidentified peaches during all three time periods was larger than the number of households using any other fruit. Therefore this number (the number of households using unidentified peaches) was set as the base number (Base=100) for each time period. There was some fluctuation in the number of households using unidentified peaches for each period. As a result, the base number was not the same for each time period. The base number actually decreased slightly from Period 1 to Period 2, and decreased again from Period 2 to Period 3.

Table 9 indicates that plain applesauce ranked second in an analysis of the number of households using it in Periods 1 and 2. Pears and mixed fruit cocktail ranked third and fourth respectively. However, in the third period the number of households using pears increased with respect to the base number just enough to overtake plain applesauce as the second most popular fruit. Of the seven fruit categories listed for all three periods, flavored applesauce was the least popular (sharing last place in Period 3 with freestone peaches).

Recall that data obtained from processors and retailers indicated they believed peaches, pears and mixed fruit cocktail were the main competitors for applesauce. Considering the fruit categories listed, Table 9 appears to confirm these perceptions. Peaches and pears are especially competitive. Many retailers also mentioned pineapple as a major competitor. Data on pineapple consumption were not purchased from MRCA, however, so a comparison is not possible for this study.

Comparison of Times Served (Three Levels)

Data analyzed here compare the number of times each fruit category was served, relative to three levels: Form Used, How Served and Source. Alternatives for each level are listed in detail in Table 10. The confidential nature of actual data required the use of a numerical scale for comparing the seven fruit categories. The numbers selected represent a percentage of total times served. A scale of one through six was used,

TABLE 9

Comparison of Seven Fruit Categories: Percentage of Households Using Relative to Base

Category	Period 1[a] Jul 72 - Jun 73	Period 2[a] Jul 81 - Jun 82	Period 3[a] Apr 82 - Mar 83
Unidentified Peaches	100[b]	100[b]	100[b]
Plain Applesauce	75	74	77
Pears	67	68	79
Mixed Fruit Cocktail	51	40	42
Cling Peaches	21	6	8
Freestone Peaches	12	4	3
Flavored Applesauce	4	3	3

[a] Applesauce consumption for an average two-week period during each time interval; sample of 4000 households.

[b] Actual number totals were confidential, so a percentage comparison was developed. The unidentified peaches number was set as the base (Base=100). Other fruit categories are reported as a percent of the base number. The base number (number of households using unidentified peaches) actually decreased from Period 1 to Period 2, and again from Period 2 to Period 3.

SOURCE: MRCA Menu Census.

with a "6" representing the most common or widely used alternatives and a "1" the least common. Blank spaces indicate that those particular alternatives were not used for a given fruit category. Two study periods were covered; July 1972-June 1973 and July 1981-June 1982. This allows for a comparison between the two sets of data. Once again, the sample size consisted of 4000 households with 12,337 members in 1972-1973 and 11,054 members in 1981-1982.

Over a ten year interval, note that there had been a substantial decrease in the number of alternative forms used, serving methods and sources for plain applesauce. During an average two-week period from July 1981-June 1982, applesauce was served only in "other forms" (presumably meaning a sauce form) as indicated under the "Form Used" level in Table 10. Under "Form Used", Sauce was not an option. Therefore, applesauce was grouped entirely under the "other forms" alternative. The same was true for flavored applesauce. As indicated for 1981-1982 under the "How Served" level in Table 10, plain applesauce was served in a sauce (stewed, sauce or compote) form almost exclusively. The only other alternative used during the period for serving plain applesauce was a home prepared filling or topping, but this amounted to just a couple of servings. Flavored

TABLE 10

Comparison of Seven Fruit Categories: Times Served[a]

July 1972 - June 1973[b]

Levels	Plain Applesauce	Flavored Applesauce	Cling Peaches	Freestone Peaches	Unidentified Peaches	Pears	Mixed Fruit Cocktail
Form Used							
Balls			1	1			
Chunks	1	1	1		1	1	1
Crushed	1	1	1	1	1	1	
Halved/Halves			2	2	2	2	
Juice Only		1	1	1	1	1	1
Whole Fruit							
Rings					1		
Sliced/Sectioned	1	2	4	3	3	1	1
Spears/Tidbits					1		1
Combination[c]	1	1		1	1	1	4
Other Forms	5	5	1	1	1	1	1
Not Indicated	2	1	2	3	3	4	2
How Served							
Baked	1	1	1	1	1	1	1
Fried					1	1	
Grated					1		
Sauce/Compote	5	5	1	1	1	1	1
Commercial Ready to Use[d]	1			1	1	1	1
Homemade[d]	1		1	1	1	1	1
Other	1		1	1	1	1	1
Plain/Not Indicated	2	2	6	6	6	6	6

(Continued)

TABLE 10 (Continued)

Levels	Plain Applesauce	Flavored Applesauce	Cling Peaches	Freestone Peaches	Unidentified Peaches	Pears	Mixed Fruit Cocktail
			July 1981 - June 1982[b]				
Form Used							
Balls							
Chunks					1	1	
Crushed			1		1	1	
Halved/Halves			1	1	1	1	
Juice Only							
Whole Fruit			2	2	3	3	
Rings			3	4	3	2	
Sliced/Sectioned						1	
Spears/Tidbits							
Combination[c]							6
Other Forms	6	6					
Not Indicated			3	2	2	2	
How Served							
Baked			1	1	1	1	
Fried							
Grated							
Sauce/Compote	6	6	1		1	1	1
Commercial Ready to Use[d]					1		
Homemade[d]	1				1		
Other							
Plain/Not Indicated			6	6	6	6	6

(Continued)

TABLE 10 (Continued)

Levels	Plain Applesauce	Flavored Applesauce	Cling Peaches	Freestone Peaches	Unidentified Peaches	Pears	Mixed Fruit Cocktail
			July 1972 - June 1973[b]				
Source							
Fresh/Raw	1	2	1	2	3	3	1
Canned/Bottled[e]	4	3	5	4	3	3	6
Dairy/Refrigerated[e]	1	1			1		
Freeze Dried[e]	1		1	1	1	1	1
Frozen Pouch[e]	1			1	1		1
Frozen Other[e]	1			1	1	1	1
Pie/Fruit Filling[e]	1				1		
Snack Pack[e]					1	1	
Dried Fruit	3	3	1	2	2	2	1
Homemade	1		1	1	1	1	1
Low Cal/Dietetic	1				1	1	1
Other/Unidentified	1				1	1	1
			July 1981 - June 1982[b]				
Fresh/Raw	1	1	2	4	4	4	1
Canned/Bottled[e]	4	3	4	3	2	2	5
Dairy/Refrigerated[e]	1		1		1		
Freeze Dried[e]				1	1	1	
Frozen Pouch[e]					1		
Frozen Other[e]	1				1		1
Pie/Fruit Filling[e]							
Snack Pack[e]					1		1
Dried Fruit					1	1	
Homemade	3	4	2	1	2	2	1
Low Cal/Dietetic	1		1		1	1	1
Other/Unidentified	1				1	1	1

[a] Three level serving characteristic breakdown based on a scale of one through six, with a "6" representing the most common or widely used alternative and a "1" the least common. The numbers selected represent a percentage of total times each fruit was served. Blank spaces indicate that those particular alternatives were not used for that particular fruit category.

[b] Fruit consumption for an average two-week period during each time interval; sample of 4000 households.

[c] Two or more forms.

[d] Filling/Topping.

[e] Commercial.

SOURCE: MRCA Menu Census.

applesauce was served strictly in a sauce form. The main source of plain applesauce during the 1981-1982 period, as in the 1972-1973 period, was from commercial cans and bottles. This source was used more than half the total number of times plain applesauce was served. The second most popular source for servings of plain applesauce was the "Home-canned, Frozen or Homemade" alternative. The percentage for this alternative increased dramatically between 1972-1973 and 1981-1982. The most popular source of servings for flavored applesauce was the "Homemade" alternative. Commercial cans and bottles were also a major source alternative for flavored applesauce.

As noted earlier, during the 1972-1973 period there was a greater number of alternative forms, serving methods and sources for applesauce than there was in 1981-1982. This change might reflect an increase in competition from other processed fruits, or a shift in consumer preference from processed products to fresh. This could also indicate that there was a decline in the number of varieties of applesauce available on the market during the latter period. The number of applesauce processing plants has declined over the years. The number of varieties of applesauce on the market may have declined with the number of processing plants. Another possible reason for the change may be that there was a major decline in the number of creative ways applesauce was used by consumers. The popularity of homemade applesauce increased considerably over the ten year interval. Possibly consumers were becoming discouraged with commercial applesauce and were turning toward homemade.

Summary

The MRCA data analyzed for this section contained information on the consumption of applesauce. The Northeast census area, more specifically the Mid Atlantic census region, contained the largest number of households consuming applesauce in the United States. The Southern and Western census areas contained the least number of consuming households. Children were found to be an important factor in determining whether households consumed applesauce. Young children and the elderly consumed the most applesauce during the study periods, while 18 to 24 year olds consumed the least. Applesauce was found to have little or no seasonal trends in sales during the year. These conclusions were apparent for both time periods (July 1972-June 1973 and July 1981-June 1982), and were consistent with the processor and retailer perceptions as reported in this research.

Applesauce was served most often for a dinner meal, and was usually used as a dessert or as a side dish to the main meal. It was served most often as a base dish, but plain applesauce also had many non-base dish uses. Some of these included uses in layer or loaf cakes, gelatin-based salads, whole or cracked wheat bread and mixed with cottage cheese. Flavored applesauce, when used as a base dish, was used most often with another product mixed into or put onto it. These products included spices, other deciduous fruits, granulated sugar and lemon.

When comparing applesauce consumption with the consumption of other fruits, it was determined that peaches, pears and mixed fruit cocktail were all major competitors. Based on total consumption during the study periods, pears were currently competing with plain applesauce for second place behind peaches. Flavored applesauce was the least popular of the seven fruit products analyzed. It was noted that total consumption of canned fruit products has been decreasing. This was also evident in Larry G. Hamm's article entitled, "Changing Times in the Processed Fruit and Vegetable Industry" (Hamm, 1984). In this article, Hamm states that consumers are shifting toward fresh fruit and vegetable products. Appendix E contains a figure, taken from Hamm's article, depicting a decline in per capita consumption of canned fruit products over a 20 year interval. Per capita consumption of all canned fruit declined. Hamm stated that between 1970-1972 and 1980-1982 per capita consumption of fresh noncitrus fruits increased by 21.3 percent. He also pointed out that per capita consumption of canned fruit products during that same period declined 29.6 percent.

Another important finding reported in Section IV was that there had been a large increase in the use of homemade applesauce during 1981-1982 compared to ten years earlier. There was a tremendous increase in the use of plain and flavored homemade applesauce over the ten year interval. This may indicate some dissatisfaction with commercially available applesauce.

Overall, this section provided information on areas which deserve marketing attention in order to increase applesauce consumption. Findings revealed that, other than the increase in use of homemade applesauce, no dramatic changes had occurred in consumption habits between 1972-1973 and 1981-1982. It also confirmed many of the processors' perceptions regarding the current status of applesauce consumption. They suggested that there had been little growth in per capita consumption of applesauce over the years. Similarly, they also seemed to understand who had been consuming applesauce and how it was being used. However, they did not appear to be acting on this knowledge. Per capita consumption of canned fruit, including applesauce, has been declining over the past 20 years. Stemming this decline, or reversing it, poses a considerable challenge to the applesauce industry - - growers, processors and distributors alike. An important first step, however, is to work creatively with current market information such as the consumer data presented in this section. In-depth consumer understanding and careful monitoring of their changing wants and needs are the keys to an effective marketing program.

Section V

CONCLUSIONS AND STRATEGIC IMPLICATIONS

Summary

This research project was designed to collect information on factors affecting the marketing and consumption of applesauce products. There were three major objectives: to collect industry-wide marketing and consumption information; to evaluate, compare and contrast this information in an effort to better understand the current status of the applesauce marketing activities; and to develop suggestions for improving marketing strategies for applesauce.

Market Information

The study began by collecting information on applesauce marketing activities. To better understand the thinking and motivation of processors and distributors in the applesauce industry, several were interviewed regarding current activities and perceptions of various aspects of the industry. Table 11 summarizes the general market information collected from each group.

Overall, applesauce processors were not as optimistic as retailers when discussing the applesauce industry. Table 11 indicates that processors and retailers were in agreement as to the main product competitors, most popular uses, primary consumers, price competition and profitability levels for applesauce products. They also agreed that very few, if any, changes in marketing strategies for applesauce had occurred during the last 10 to 20 years. Both groups felt that the advertising efforts for applesauce products had not been effective and that more media advertising was needed. Moreover, they felt that resources for new product development were insufficient and needed to be increased.

As indicated in Table 11, there were also several areas where processors and retailers disagreed. The two major areas of disagreement were related to the image and competitiveness of applesauce. Processors indicated they felt retailers and wholesalers had a commodity image of applesauce. Retailers, however, expressed very positive feelings toward the image of applesauce. They generally felt that it was a promotable volume item; a traffic-builder that draws customers down the canned fruit aisle. According to processors, the image of applesauce among consumers is that of an unexciting side dish or accompaniment. They also mentioned that consumers seem to lack ideas for new uses. Retailers, on the other hand, felt consumers perceived applesauce as healthful, nutritious, economical and convenient.

When discussing applesauce's ability to compete, a majority of processors said it did not effectively compete for marketing resources in their firms because it had very little sales growth potential. Most processors felt an unwillingness to invest marketing funds in applesauce

TABLE 11

Summary of General Market Information

Categories	Processor Perceptions	Retailer Perceptions
Retailer & Wholesaler Image	Commodity image. Viewed as old-fashioned product.	Positive image. Promotable volume item. Product leader that draws consumers down canned fruit aisle. Willing to promote it.
Consumer Image	Unexciting side dish. Lack ideas for new use.	Healthful, nutritious, economical, and convenient.
Competitors	Peaches, pears, fruit cocktail.	Pineapple, peaches, pears, fruit cocktail.
Uses	Side dish for pork chops. Dessert. Recipe ingredient. Generally a lack of variety in uses.	Side dish for pork chops. Dessert. Recipe ingredient.
Primary Consumers	Young children and middle-aged to elderly adults.	Universal age appeal. Young children and middle-aged to elderly adults.
Price Competition and Profitability	Price competition is high at all levels; mixed views on profitability.	Price competition is high at all levels; mixed views on profitability.
Changes in Marketing Strategies Over Past 10 to 20 Years	None. Increased involvement by industry groups. Introduction of new flavors and varieties. Newspaper and magazine advertising.	None. Introduction of Cinnamon, Natural and McIntosh varieties. Glass containers with a proliferation of sizes. More informative product labeling.
Competitive Effectiveness	Does not effectively compete for marketing resources. Has very little potential for growth.	Does effectively compete for shelf space at supermarket. It is promotable, versatile, a traffic-builder and a volume item.
Advertising Effectiveness	Not very effective. Very little manufacturer advertising. More needed.	Inadequate. Would like to see more advertising.
Resources for New Product Development	Insufficient. Very minimal.	Need additional resources devoted to this area.

Note: Most frequent responses in priority order.

because of its limited growth potential. Retailers, however, indicated applesauce did effectively compete for shelf space in supermarkets. Once again, they stressed that applesauce was a volume item that was promotable, versatile and a traffic-builder.

A comparison of responses from processors and retailers (Table 11) indicates that in many areas, processor and retailer perception of the applesauce industry are similar. However, they also reveal some major differences. The perceptions on image and ability to compete are dramatically different. Because of their perceptions, retailers indicated they are ready to carry and promote applesauce. Processor perceptions, on the other hand, tend to result in restricted funds for product marketing and development.

Marketing Strategy Suggestions

The mature nature of applesauce and the unique factors which influence its production and marketing magnify the need for an effective and efficient marketing program. Both processors and retailers recognize a need for improved marketing strategies for applesauce products. During interviews, they were asked to make suggestions for improving current marketing strategies. Table 12 lists their suggestions. The major areas of focus include advertising, new packaging techniques and new product development. Both processors and retailers felt that there was a need for more advertising, and both groups expressed an interest in and a desire for cooperative advertising. Both processors and retailers also emphasized a need for educating consumers on alternative uses for applesauce. New packaging suggestions focused primarily on sterilized methods involving new forms and materials. Both processors and retailers indicated that varietal packs may be beneficial to the industry in the future.

Additional Suggestions and Recommendations

After collecting and analyzing the data for this research study, it seems evident that there are five general areas in which processors and marketers should focus attention to develop a more effective marketing strategy for applesauce.

1. Market information
2. Consumer education
3. Market segmentation and product targeting
4. Coordination
5. Communication

Market Information

An analysis of the information derived from the MRCA data in Section IV illustrates the importance of current market information. Current consumer data like that presented in Section IV must be obtained if a marketer is going to have sufficient knowledge to develop an effective marketing program. These kind of data provide information on consumer demographics, psychographics, eater characteristics, meal and serving occasions, food usage and product competition. It appears many firms in

TABLE 12

Processor and Retailer Market Strategy Suggestions

Categories	Processors	Retailers
Advertising	More needed. Cooperative advertising can be very effective. Stress use as a recipe ingredient, in addition to extended uses.	Focus on educating consumers. Stress use as an additive and recipe ingredient. Advertise with other products (i.e. pork, flour or sugar). Increase advertising for Natural variety. More cooperative advertising. Increase all types of media advertising.
New Packaging Techniques	Aseptic. Brik paks. Form-fill-seal. Plastic bottles. Transparent pouches.	Aseptic. Brik paks. 6 or 8 oz. jar with flip lid. "New York State Apples" on label.
New Product Developments	Mix with other fruits. Varietal packs (McIntosh, Golden Delicious, etc.).	Varietal packs. Sodium free product.
Others	Educate young consumer through in-school Home Economic program. Additional marketing studies, focus groups and other market research.	Improve shelf appearance. Provide informational point-of-purchase materials. Coupons. Funds for aggressive retailers to promote and advertise. Improve coordination between suppliers and retailers.

the applesauce industry feel they have adequate and thorough market information. However, without consumer information of this kind, they lack the data necessary for the development of a creative and effective marketing program.

Consumer Education

Processors and retailers frequently pointed out the need to educate consumers on different uses for applesauce. This is an area where consumer information would be very beneficial. As reported in Section IV, there are a variety of uses for applesauce, including use as a dessert, side dish, additive, ingredient or separate snack item. Consumers must be educated on these uses if consumption is to increase. New uses must also be developed. Processor and retailer suggestions for product use were limited to only a few alternatives. New ideas for applesauce in the diet are essential. If applesauce marketers are able to offer new products, new packaging or new use ideas they might stimulate some excitement and interest among consumers.

Promotions are helpful in moving products, and retailers indicated applesauce was a very promotable product. Promotions with other products may help consumers to associate applesauce with less traditional uses (i.e. breakfast, topping/filling, appetizer, etc.). Promotions with flour, sugar, cake mixes, etc., might also educate consumers as to new uses in recipes. More advertising and promotion of Natural applesauce may stimulate an interest among health-conscious consumers. Many retailers indicated that the Natural variety had great potential for increasing sales. However, marketing funds are required if consumers are to be informed of its beneficial qualities.

The Western New York Apple Growers Association has been intensively working on a campaign to educate consumers on recipe uses. Reportedly, the program has been very successful. Programs like these are going to educate consumers on the healthful, nutritious, versatile characteristics of applesauce.

Market Segmentation and Product Targeting

Consumer information like that offered by MRCA can also be used to segment the market and target applesauce products. In Section IV we identified a number of areas in which to focus marketing programs. Funds must be appropriated to increase the marketing effort to current consumers, as well as new consumer groups, if demand and sales for applesauce are going to be increased. Rather than allocating all funding to the development of one general marketing program that may ultimately appeal to a small consumer or market group, marketing funds may be used more efficiently and effectively if the market is segmented and different products are targeted toward specific consumer groups. Some suggestions for market segmentation and product targeting follow.

It is evident, from data analyzed in Section IV, that children strongly influence applesauce consumption. In an effort to pursue greater market segmentation, perhaps different blends of fruit and applesauce could be developed to appeal more to children. Selected labeling and advertising could also be geared more toward the children's market. The elderly were also found to be large consumers of applesauce. Perhaps targeting a sodium free product toward the elderly is an alternative worthy of consideration. More attention must also be given to Natural applesauce. Perhaps this product should be targeted toward young health-conscious adults, particularly those 18 to 24 years of age. This group currently consumes the least amount of applesauce. There are also different ethnic groups, such as Blacks and Hispanics, which are virtually untapped markets. New product development does not have to involve a million dollar investment in research. Slight changes in ingredients, labeling, packaging and promotion are sometimes sufficient for new target markets.

Coordination

Another area in which marketers should focus attention is greater coordination between the various segments of the market channel. More coordinated efforts in the market channel may provide incentives for additional marketing efforts for applesauce, including more advertising and new product development. For example, this type of program might involve processors and trade associations. The Western New York Apple Growers Association carries out generic applesauce advertising. One alternative is to set aside a portion of their advertising budget each year for brand advertising of a new or modified applesauce product. This need not interrupt their regular applesauce advertising efforts. Rather, it would offer an incentive to processors for putting funds into new product development.

Perhaps better coordination between processors and retailers would also result in more effective and efficient marketing programs. Joint efforts in advertising and promotion, as well as shared information on consumer habits and other market information, might improve marketing efforts for applesauce. Programs like these would create a more coordinated marketing effort and a closer working relationship between the various segments of the marketing channel.

Communication

Communication is an essential element in any marketing effort. When analyzing the contrasting perceptions of processors and retailers presented in Table 11, the opposing views would suggest that there is a lack of adequate communication between these two segments of the applesauce marketing channel. Processors and retailers must work together in order to successfully market a product. Retailers have greater contact with consumers than processors. For the purpose of this study, retailers were willing and able to communicate their positive perceptions of applesauce. In the future, processors should pursue this valuable source of information more aggressively. Trade associations may also provide important market information that would otherwise be difficult to obtain. They have a unique position in the marketing channel, working with growers, processors, distributors and consumers. Since processors provide the major source of funding for marketing programs, they must be willing to pursue all kinds of market information, including feedback from other marketing organizations.

Because it is felt by many to be a mature product, processors currently bear the major responsibility for the marketing of applesauce.

To restrict funds for the development and marketing of applesauce because it is perceived to have little or no sales growth potential creates somewhat of a self-fulfilling prophecy for processors and other marketers. If they do not actively pursue improved marketing efforts for applesauce, it may very well follow the product life cycle pattern by going into a steady decline, until it is no longer profitable to produce.

The lack of major marketing efforts over the last 10 to 20 years is probably a result of the combined impact of high costs, high risks and modest returns. The benefit and cost structure of a mature market often gives participants little incentive to be market innovators, particularly when competitors can easily duplicate successful marketing efforts. To increase the consumption of applesauce, processors must weigh the short term risks against the possible long term gains of an aggressive marketing program for applesauce. The long term potential of mature products will never be realized if all processors wait for someone else to be the innovator in the market. If applesauce is to maintain a place in the consumer's diet, processors must take the initiative to improve marketing efforts.

An essential part of this effort is for processors, distributors and trade associations to maintain open lines of communication. All affected parties must keep informed through market research studies. They must also work to enhance the incentive structure of the industry. There is a tendency for each organization and segment to work independently and competitively. The marketing of agriculturally-based products, like applesauce, can be a very complicated process. In order to stem, or possibly reverse, a per capita decline in applesauce consumption, it will take a coordinated effort among all organizations in the applesauce industry; growers, processors, distributors, and trade associations. These organizations must work to educate each other on major trends in the applesauce industry, and together they must work to educate consumers. Their ultimate goal must be to increase the demand for and profitability of applesauce.

Further Research

This study was designed as a general analysis of the applesauce industry. General market information was collected to create a better understanding of the marketing and consumption of applesauce. The analysis of data in this study also helped to identify areas in which further applesauce research on marketing and consumption might be pursued. One important area that deserves further attention is advertising. Through the use of an econometric model, the effect that variables such as timing, competing programs, consumer demographics, and geographical location have on an advertising program for applesauce might be examined. The effectiveness of different types of media advertising may also be tested so funds may be allocated most efficiently. Research might also be undertaken to determine the effects of generic versus brand advertising, and how each type influences the level of sales for a product. Since the Natural variety is a relatively new development, it might be a good product to use in carrying out a study of this nature. This type of analysis would help marketers create more effective and productive advertising campaigns to aid in educating consumers on the beneficial characteristics of applesauce.

Some of this same kind of research might also be used to evaluate promotional programs for applesauce. Varying amounts and types of promotions could be examined, along with timing. This would aid marketers in promoting applesauce in an attempt to increase sales.

The consumption analysis in Section IV also helped to identify marketing areas which should be examined. The analysis indicated that consumers usually mix something into or put something onto flavored applesauce. If consumers do not enjoy the taste of flavored applesauce, research should be undertaken to find out what flavors they would like. In this way, processors could create new flavors that would be more appealing to consumers. They could discontinue putting funds into producing and marketing products that consumers do not particularly enjoy.

The analysis also indicated that 18 to 24 year olds were consuming the least amount of applesauce. Perhaps a focus group could be set up to determine why they are not eating applesauce and also to obtain ideas for applesauce blends and flavors that they would enjoy. In addition, this may create an opportunity for members of this age group to sample Natural applesauce. This would make them aware of the product, and would allow for the collection of information on their reaction to the product.

The dramatic increase in homemade applesauce consumption is also worth studying. Consumers could be interviewed on their use of applesauce, whether homemade or commercial. An indication of why there was a tremendous increase in homemade applesauce consumption might result. Consumers may be willing to reveal why they prefer homemade applesauce to commercial, and also provide suggestions for improving commercial applesauce.

Lastly, the need for new uses and new product development is evident. In his article entitled, "Marketing Myopia," Levitt (1960) suggests that many companies have defined themselves too narrowly. He suggests that in order to continue growing, they must recognize the needs and desires of their customers; they must become more customer-oriented than product-oriented.

Likewise, processors appear to be thinking too narrowly relative to uses for applesauce. During interviews, processors and retailers indicated that historically, uses for applesauce have been somewhat narrowly defined. Processors and marketers must evaluate the needs and desires of consumers to discover new use ideas for applesauce. In addition to relying on their own new product developments, processors and marketers might approach consumers to find out what they use applesauce for and what could be done to make it a more appealing product. Consumers can be very creative in developing various uses for a product. Perhaps some consumers are using applesauce in a way that could increase interest and demand for the product. A wider variety of uses as a standard base dish, as well as additional suggestions for use as an ingredient, additive, etc., could stimulate a growth in sales and give applesauce the opportunity for a brighter future.

Appendix A

DESCRIPTION OF CONTAINERS

Aseptic Packaging:

A sterilized product in a sterilized package, put together under sterile conditions to increase shelf life.

Brik Pak:

"Brik pak" refers to a cardboard container that has a quadrangular shape similar to a brick.

Form-Fill-Seal:

In this process an aseptic package is formed, filled with the product, and then sealed. A single processor undertakes the entire process.

Transparent Pouch:

A see-through bag which is light weight and could be used for single service applications. Often if home preparation is required, it is performed with the product still in the pouch.

Plastic Bottles:

A plastic container that could offer single or multi-service options. The container is resealable and nonbreakable.

Appendix B

MENU CENSUS TERMINOLOGY

Base Dish:

The final dish form (or end product) that is served and eaten as such.

Additive:

Any food product which is added to a base dish after that base dish has been prepared. It is usually added, at the discretion of the eater, at the table.

Ingredient:

Food items combined by the preparer to produce final (base) dishes or additives (i.e. eggs in pancakes).

Component:

A subsidiary part of a base dish or an additive (i.e. crust for a pie or frosting for a cake).

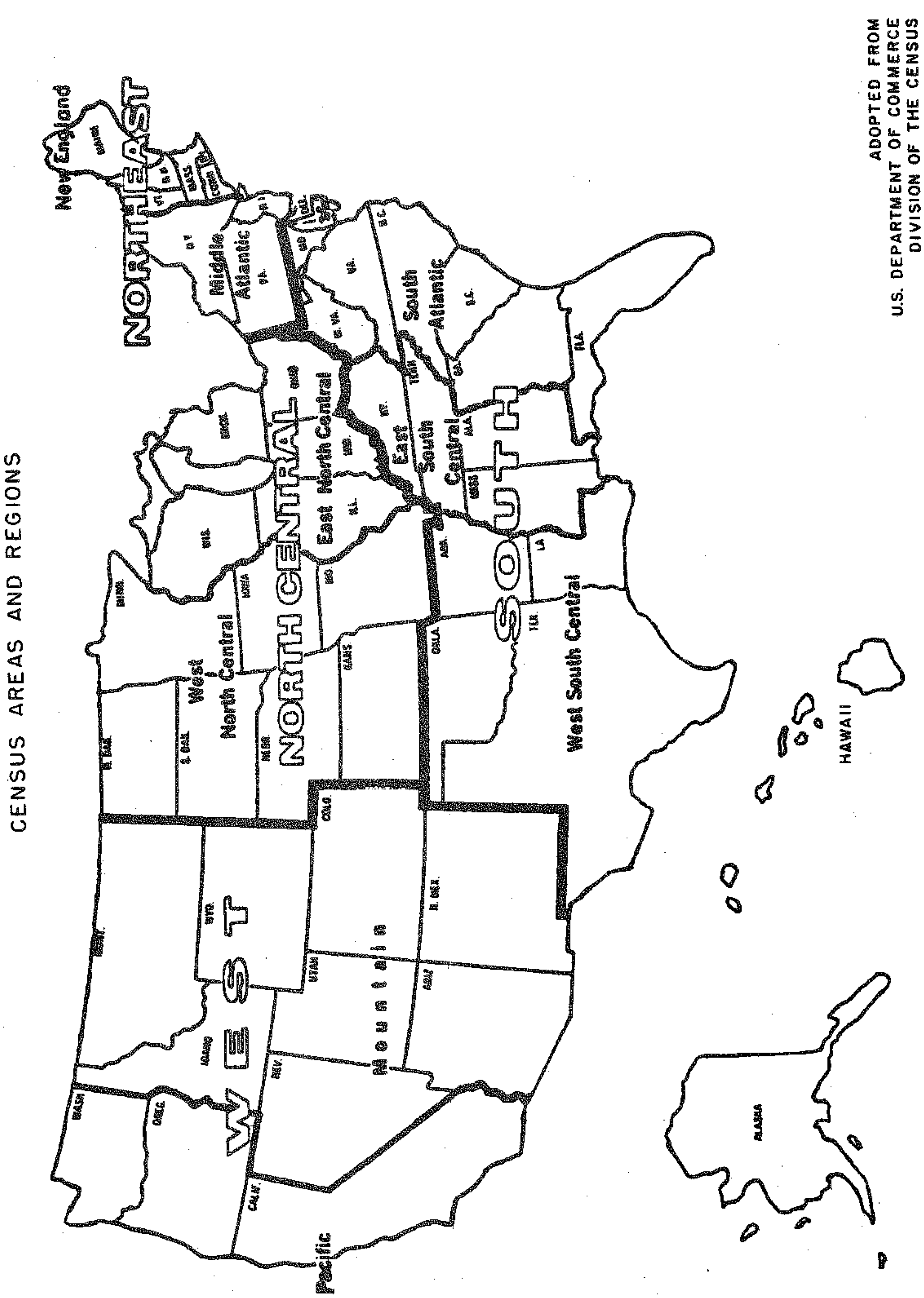
Agent:

Food used to assist or facilitate the preparation of other foods (i.e. oil for frying).

SOURCE: MRCA

Appendix C

MAP OF AREAS AND REGIONS



Appendix D

LISTING OF MRCA DATA CATEGORIES

Complete Listing of Household Demographic Categories[a]

Categories	Subcategories	Categories	Subcategories
Census Areas[b]	Northeast North Central South West	Presence of Children	None Under 6 yrs only 6-12 yrs only 13-17 yrs only 6-12 & 13-17 yrs Under 6 & others
Census Regions[b]	New England Mid Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	Age of Homemaker	Under 25 yrs 25-34 yrs 35-44 yrs 45-54 yrs 55-64 yrs 65 yrs & over
Metro Area Size	Farm Under 2,500 2,500-50,000 50,000-250,000 250,000-500,000 500,000-1 million 1 million-2 million 2 million and over	Homemaker Employment	Employed Not Employed
		Occupation - Household Head	White collar Blue collar Farmer Not a worker
Household Income	Under $5,000 $5,000-8,999 $9,000-12,999 $13,000-16,999 $17,000-22,999 $23,000 & over	Education - Household Head	Under 9th grade 9th-12th grade 13 yrs & over
		Race	White Non white
Household Size	1 person 2 persons 3-4 persons 5 or more persons	Seasonal Totals	Jul-Sep Oct-Dec Jan-Mar Apr-Jun

[a] Methodical listing.
[b] See Appendix C for a map of areas and regions surveyed.

SOURCE: MRCA Menu Census.

APPENDIX D (Continued)

Complete Listing of Categories[a]

Eater Characteristics

Categories	Subcategories
Age	
Male & Female Members	Under 2 yrs 2-5 yrs 6-12 yrs 13-17 yrs 18-24 yrs 25-34 yrs 35-44 yrs 45-54 yrs 55-64 yrs 65 yrs & over
Diet Status	
Males & Females Under 18 yrs	On some diet No diet
Males & Females 18 Yrs & Over	Losing Watching/Gaining Medical/Health None

Meal and Serving Classification

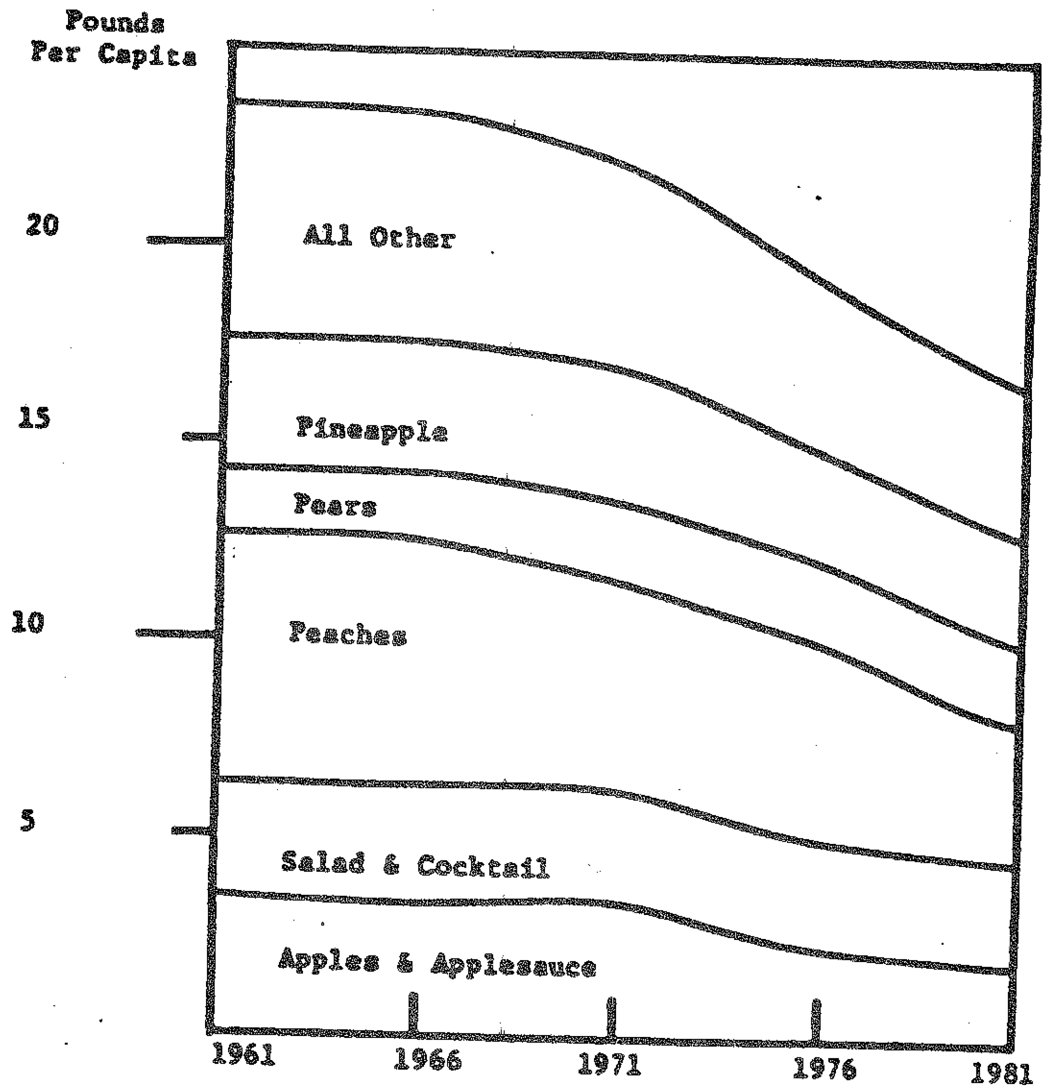
Categories	Subcategories
Days of the Week	Monday Tuesday Wednesday Thursday Friday Saturday Sunday
Occasion for Use	Main meal Snack Carried food[b]
Main Meal	Breakfast Lunch Dinner
Shacks	Morning Afternoon Evening/Bedtime
Position of Main Meal	Main dish Side dish Dessert Other dishes

[a] Methodical listing.
[b] Packaged lunches.

SOURCE: MRCA Menu Census.

Appendix E

CANNED FRUITS: 20 YEAR CONSUMPTION TREND



Source: The American Institute of Food Distribution Inc., Food Markets in Review, Volume I, p. 222.

BIBLIOGRAPHY

Almanac of the Canning, Freezing, Preserving Industries. 68th ed. Westminster, Maryland: Edward E. Judge & Sons, Inc., 1983.

Associated New York State Food Processors 1982 Directory. Associated New York State Food Processors, Inc., Vol. 25, Rochester, New York, p. 88.

Breimyer, Harold E. Economics of the Product Markets of Agriculture. Ames, Iowa: The Iowa State University Press, 1976.

Buzzell, Robert D. "Competitive Behavior and Product Life Cycle." In New Ideas for Successful Marketing. Edited by John S. Wright and Jac L. Goldstucker. Chicago: American Marketing Association, 1966, pp. 46-68.

Campbell, John. New York Crop Reporting Service, Albany, New York. Personal communication, September 18, 1984.

Dalrymple, William J. "Cooperative Equity Financing." Unpublished M.S. thesis, Cornell University, 1981.

French, Ben C. "Fruit and Vegetable Marketing Orders: A Critique of the Issues and State of Analysis." American Journal of Economics, 64 (December 1982): pp. 916-923.

French, Charles E.; Haring, Kenneth F.; Kraenzle, Charles A.; and Moore, John C. Agricultural Cooperatives: Challenges and Strategies. Cooperative Research Report 9. Economics, Statistics, and Cooperatives Service, USDA, Washington, D.C., March 1979.

"Fresh puts a dent in canned fruit." Progressive Grocer, 63:7 (July 1984): pp. 81-82.

Hamm, Larry G. "Changing Times in the Processed Fruit and Vegetable Industry." From Proceedings, 24th National Bargaining Conference. Phoenix, Arizona: Economic Research Service, USDA, January 7-8, 1984, pp. 47-58.

Hardie, Ian W. "Cooperative Theory and Market Implications: A Selected Review." In Agricultural Cooperatives and Markets in Developing Countries. Edited by Russell H. Brannon and Eldon D. Auschel. New York: Frederick A. Praeger, Inc., 1969, pp. 44-59.

Harrigan, Kathryn Rudie. Strategies for Declining Businesses. Lexington, Massachusetts: Lexington Books, D.C. Heath and Company, 1980.

Kohls, Richard L. and Uhl, Joseph N. Marketing of Agricultural Products. 5th ed. New York: MacMillan Publishing Company, Inc., 1980.

Kotler, Philip. Marketing Management: Analysis, Planning and Control. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980.

_______________. "Phasing Out Weak Products." Harvard Business Review, 43:2 (March-April 1965): pp. 107-118.

_______________. Principles of Marketing. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980.

Levitt, Theodore. "Exploit of the Product Life Cycle." Harvard Business Review, 43:6 (November-December 1965): pp. 81-87.

_______________. Innovation in Marketing. New York: McGraw-Hill Book Company, 1962.

_______________. "Marketing Myopia." Harvard Business Review, 38:4 (July-August 1960): pp. 45-56.

New York Crop Reporting Service. New York Agricultural Statistics 1982. New York State Department of Agriculture and Markets, Division of Statistics; and USDA, Statistical Reporting Service. Albany, New York. (June 1983): pp. 29-33.

_______________. New York Orchard and Vineyard Survey, 1980. New York Department of Agriculture and Markets, Division of Statistics; and USDA, Statistical Reporting Service. Albany, New York, pp. 7-23.

Pollard, Kenneth. Western New York Apple Growers Association, Fishers, New York. Personal communication, September 18, 1984.

Porter, Charles. Agricultural Marketing Service, USDA, Washington, D.C. Personal communication, August 21, 1984.

Robinson, Kenneth L. "Agricultural Protection and Trade Policies." In Farm and Food Policies. Published Lecture Notes, Department of Agricultural Economics, Cornell University, 27 (1982): pp. 1-8.

Robinson, Kenneth L. "Coping With Instability." In Farm and Food Policies. Published Lecture Notes, Department of Agricultural Economics, Cornell University, 13 (1982): pp. 1-10.

Roy, Ewell Paul. Cooperatives: Development, Principles and Management. 4th ed. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1981.

Ryan, Mary S. and Tontz, Robert L. "A Historical Review of World Trade Policies and Institutions." Special Report Number 72, Agricultural Extension Service, University of Minnesota, November 1978, pp. 5-19.

Stewart, John B. "Functional Features in Product Strategy." Harvard Business Review. 37:2 (March-April 1959): pp. 65-78.

Tomek, William G. and Robinson, Kenneth L. Agricultural Product Prices. 2nd ed. Ithaca: Cornell University Press, 1981.

U.S. Department of Agriculture. "A Review of Federal Marketing Orders for Fruits, Vegetables, and Specialty Crops." Agricultural Economic Report Number 477, Agricultural Marketing Service, Washington, D.C., November 1981.

______________. "Effectiveness of Federal Marketing Orders for Fruits and Vegetables." Economics and Statistics Service, Washington, D.C., March 1981.

______________. "Facts About: Research and Promotion Programs for Farm Products." AMS-561, Agricultural Marketing Service, Washington, D.C., November 1974.

______________. "Fruit Outlook and Situation." TFS-231, Economic Research Service, Washington, D.C., July 1984, p. 18.

______________. "Fruit Situation." TFS-215, Economics, Statistics, and Cooperatives Service, Washington, D.C., July 1980, p. 38.

______________. "Price Impacts of Federal Market Order Programs." Report of the Interagency Task Force. Special Report 12, Farmer Cooperative Service, Washington, D.C., January 7, 1975.

______________. "Sixty Years of Service: The Fruit and Vegetable Division." Agricultural Marketing Service, Washington, D.C., September 1975, pp. 1-7.

Uetz, Michael P. "Market Analysis and Strategies for Applesauce." Unpublished M.S. thesis, Cornell University, 1985.